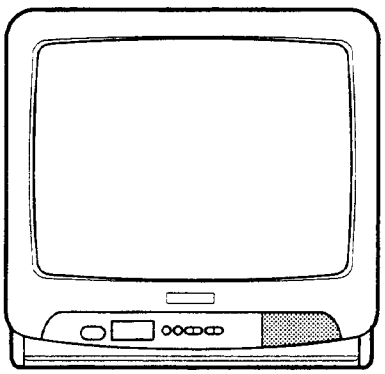
GoldStar

COLOUR TV SERVICE MANUAL

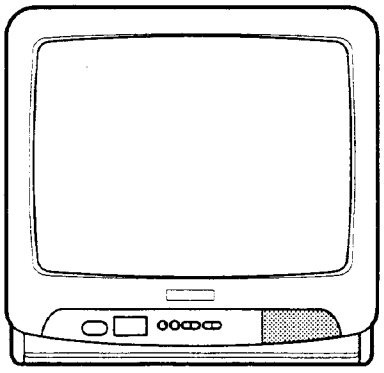
CAUTION

BEFORE SERVICING THE CHASSIS, READ THE "SAFETY PRECAUTIONS" IN THIS MANUAL.

MODEL : CB-20A80
CB-20/21A80G



MODEL : CB-14A80G



CHASSIS : PC-31A

MODEL : CB-20A80
CB-14A80G
CB-20A80G
CB-21A80G

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CONTENTS

Contents 2

Safety Precautions 3

Servicing Precautions 4

Specifications 6

Control Descriptions 7

Disassembly Instructions 8

Purity & Convergence Adjustment 9

Exploded View 12

Exploded View Parts List 13

Replacement Parts List 14

SVC Sheet .....

SAFETY PRECAUTIONS

WARNING : BEFORE SERVICING THIS CHASSIS, READ THE "X-RAY RADIATION PRECAUTIONS", SAFETY INSTRUCTIONS" AND "PRODUCT SAFETY NOTICE" DESCRIBED BELOW.

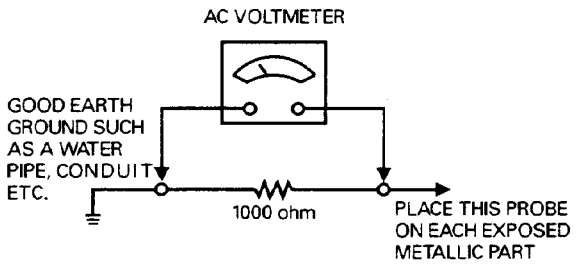
X-RAY RADIATION PRECAUTIONS

1. Excessive high voltage can produce potentially hazardous X-RAY RADIATION. To avoid such hazards, the high voltage must not be above the specified limit. The nominal value of the high voltage of this receiver is 27.5KV at Zero beam current (minimum brightness) under specified power source. The high voltage must not, under any circumstances, exceed 28.5KV. Each time a receiver requires servicing, the high voltage should be checked. It is recommended the reading of the high voltage be recorded as a part of the service record. It is important to use an accurate and reliable high voltage meter.
2. The only source of X-RAY RADIATION in this TV receiver is the picture tube. For continued X-RAY RADIATION protection, the replacement tube must be exactly the same type tube as specified in the parts list.
3. Some parts in this receiver have special safety-related characteristics for X-RAY RADIATION protection. For continued safety, parts replacement should be undertaken only after referring to the PRODUCT SAFETY NOTICE below.

SAFETY INSTRUCTIONS

1. Potential as high as 23,000-27,500 volts is present when this receiver is operating. Operation of the receiver outside the cabinet or with the back cover removed involves a shock hazard from the receiver.
   (1) Servicing should not be attempted by anyone who don't know the precautions necessary through and through when working on high-voltage equipment.
   (2) Always discharge the picture tube anode to the CHASSIS GROUND to reduce the shock hazard before removing the anode cap.
   (3) Perfectly discharge the high potential of the picture tube before handling.
   (WARNING: Risk of implosion. Handle with care.)
2. If any fuse in this TV receiver is blown, replace it with the FUSE specified in the chassis parts list only.
3. When replacing parts or circuit boards, wind the lead wires around terminals before soldering.
4. When replacing a high wattage resistor (oxide metal film resistor) in circuit board, keep the resistor 10 mm away from circuit board.
5. Keep wires away from high voltage or high temperature components.
6. Before returning the set to the customer, always perform an AC leakage current check on the exposed metallic parts of the cabinet, such as antennas, terminals, screwheads, metal overlays, control shafts, etc., to be sure the set is safe to operate without danger of electrical shock. Since this TV has AVC (Automatic Voltage Control) circuit, it may be operated nonadjustably within the voltage area indicated in the label attached at back cover. (Do not use a line isolation transformer during this check).
   Use an AC voltmeter having 1000 ohms per volt or more sensitivity in the following manner.
   Connect a 1000 ohm resistor between a known good earth ground, (water pipe, conduit, etc.) and the exposed metallic parts, one at a time. Measure the AC voltage across the combination of 1000 ohm resistor. Reverse the AC plug at the AC outlet and repeat AC voltage measurements for each exposed metallic part. Voltage measured must not exceed 1 volt RMS. This corresponds to 1 mA. AC. Any value exceeding this limit constitutes a potential shock hazard and must be corrected immediately.

AC Leakage Test



PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in this chassis have special safety-related characteristics. These characteristics are often passed without being noticed by a visual inspection and the X-RAY RADIATION protection afforded by some of them cannot necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified by ⚠ marks on the schematic diagram and the replacement parts list.
Before replacing any of these components, read the parts list in this manual carefully. The use of substitute replacement parts which do not have the same safety characteristics as specified in the parts list may create X-RAY RADIATION.

SERVICING PRECAUTIONS

CAUTION: Before servicing receivers covered by this service manual and its supplements and addenda, read and follow the *SAFETY PRECAUTIONS* on page 3 of this publication.
NOTE: If unforeseen circumstances create conflict between the following servicing precautions and any of the safety precautions on page 3 of this publication, always follow the safety precautions. Remember: Safety First.

General Servicing Precautions

1. Always unplug the receiver AC power cord from the AC power source before;
   a. Removing or reinstalling any component, circuit board module or any other receiver assembly.
   b. Disconnecting or reconnecting any receiver electrical plug or other electrical connection.
   c. Connecting a test substitute in parallel with an electrolytic capacitor in the receiver.
      CAUTION: A wrong part substitution or incorrect polarity installation of electrolytic capacitors may result in an explosion hazard.
   d. Discharging the picture tube anode.
2. Test high voltage only by measuring it with an appropriate high voltage meter or other voltage measuring device (DVM, FETVOM, etc) equipped with a suitable high voltage probe. Do not test high voltage by "drawing an arc".
3. Discharge the picture tube anode only by (a) first connecting one end of an insulated clip lead to the degaussing or kine aquadag grounding system shield at the point where the picture tube socket ground lead is connected, and then (b) touch the other end of the insulated clip lead to the picture tube anode button, using an insulating handle to avoid personal contact with high voltage.
4. Do not spray chemicals on or near this receiver or any of its assemblies.
5. Unless specified otherwise in this service manual, clean electrical contacts only by applying the following mixture to the contacts with a pipe cleaner, cotton-tipped stick or comparable nonabrasive applicator; 10% (by volume) Acetone and 90% (by volume) isopropyl alcohol (90%-99% strength)
   CAUTION: This is a flammable mixture.
   Unless specified otherwise in this service manual, lubrication of contacts in not required.
6. Do not defeat any plug/socket B+ voltage interlocks with which receivers covered by this service manual might be equipped.
7. Do not apply AC power to this instrument and/or any of its electrical assemblies unless all solid-state device heat sinks are correctly installed.
8. Always connect the test receiver ground lead to the receiver chassis ground before connecting the test receiver positive lead.
   Always remove the test receiver ground lead last.
9. *Use with this receiver only the test fixtures specified in this service manual.*
   CAUTION: Do not connect the test fixture ground strap to any heatsink in this receiver.

Electrostatically Sensitive (ES) Devices

Some semiconductor (solid state) devices can be damaged easily by static electricity. Such components commonly are called *Electrostatically Sensitive (ES) Devices.* Examples of typical ES devices are integrated circuits and some fieldeffect transistors and semicounductor "chip" components. The following techniques should be used to help reduce the incidence of component damage caused by static electricity.

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any electrostatic charge on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging wrist strap device, which should be removed to prevent potential shock reasons prior to applying power to the unit under test.
2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminium foil, to prevent electrostatic charge buildup or exposure of the assembly.
3. Use only a grounded-tip soldering iron to solder or unsolder ES devices.
4. Use only an anti-static type solder removal device. Some solder removal devices not classified as "anti-static" can generate electrical charges sufficient to damage ES devices.
5. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ES devices.
6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminium foil or comparable conductive material).
7. Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.
   CAUTION: Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.
8. Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise harmless motion such as the bruching together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity sufficient to damage an ES device.)

General Soldering Guidelines

1. Use a grounded-tip, low-wattage soldering iron and appropriate tip size and shape that will maintain tip temperature within the range or 500° F to 600° F.
2. Use an appropriate gauge of RMA resin-core solder composed of 60 parts tin/40 parts lead.
3. Keep the soldering iron tip clean and well tinned.
4. Thoroughly clean the surfaces to be soldered. Use a mall wirebristle (0.5 inch, or 1.25cm) brush with a metal handle. Do not use freon-propelled spray-on cleaners.
5. Use the following unsoldering technique
   a. Allow the soldering iron tip to reach normal temperature. (500° F to 600° F)
   b. Heat the component lead until the solder melts.
   c. Quickly draw the melted solder with an anti-static, suction-type solder removal device or with solder braid.
      CAUTION: Work quickly to avoid overheating the circuitboard printed foil.
6. Use the following soldering technique.
   a. Allow the soldering iron tip to reach a normal temperature (500° F to 600° F)
   b. First, hold the soldering iron tip and solder the strand against the component lead until the solder melts.

c. Quickly move the soldering iron tip to the junction of the component lead and the printed circuit foil, and hold it there only until the solder flows onto and around both the component lead and the foil.
CAUTION: Work quickly to avoid overheating the circuit board printed foil.
d. Closely inspect the solder area and remove any excess or splashed solder with a small wire-bristle brush.

IC Remove/Replacement
Some chassis circuit boards have slotted holes (oblong) through which the IC leads are inserted and then bent flat against the circuit foil. When holes are the slotted type, the following technique should be used to remove and replace the IC. When working with boards using the familiar round hole, use the standard technique as outlined in paragraphs 5 and 6 above.

Removal
1. Desolder and straighten each IC lead in one operation by gently prying up on the lead with the soldering iron tip as the solder melts.
2. Draw away the melted solder with an anti-static suction-type solder removal device (or with solder braid) before removing the IC.

Replacement
1. Carefully insert the replacement IC in the circuit board.
2. Carefully bend each IC lead against the circuit foil pad and solder it.
3. Clean the soldered areas with a small wire-bristle brush. (It is not necessary to reapply acrylic coating to the areas).

"Small-Signal" Discrete Transistor Removal/Replacement
1. Remove the defective transistor by clipping its leads as close as possible to the component body.
2. Bend into a "U" shape the end of each of three leads remaining on the circuit board.
3. Bend into a "U" shape the replacement transistor leads.
4. Connect the replacement transistor leads to the corresponding leads extending from the circuit board and crimp the "U" with long nose pliers to insure metal to metal contact then solder each connection.

Power Output, Transistor Device Removal/Replacement
1. Heat and remove all solder from around the transistor leads.
2. Remove the heatsink mounting screw (if so equipped).
3. Carefully remove the transistor from the heat sink of the circuit board.
4. Insert new transistor in the circuit board.
5. Solder each transistor lead, and clip off excess lead.
6. Replace heatsink.

Diode Removal/Replacement
1. Remove defective diode by clipping its leads as close as possible to diode body.
2. Bend the two remaining leads perpendiculaly to the circuit board.
3. Observing diode polarity, wrap each lead of the new diode around the corresponding lead on the circuit board.
4. Securely crimp each connection and solder it.
5. Inspect (on the circuit board copper side) the solder joints of the two "original" leads. If they are not shiny, reheat them and if necessary, apply additional solder.

Fuse and Conventional Resistor Removal/Replacement
1. Clip each fuse or resistor lead at top of the circuit board hollow stake.
2. Securely crimp the leads of replacement component around notch at stake top.
3. Solder the connections.
CAUTION: Maintain original spacing between the replaced component and adjacent components and the circuit board to prevent excessive component temperatures.

Circuit Board Foil Repair
Excessive heat applied to the copper foil of any printed circuit board will weaken the adhesive that bonds the foil to the circuit board causing the foil to separate from or "lift-off" the board. The following guidelines and procedures should be followed whenever this condition is encountered.

At IC Connections
To repair a defective copper pattern at IC connections use the following procedure to install a jumper wire on the copper pattern side of the circuit board. (Use this technique only on IC connections).

1. Carefully remove the damaged copper pattern with a sharp knife. (Remove only as much copper as absolutely necessary).
2. carefully scratch away the solder resist and acrylic coating (if used) from the end of the remaining copper pattern.
3. Bend a small "U" in one end of a small gauge jumper wire and carefully crimp it around the IC pin. Solder the IC connection.
4. Route the jumper wire along the path of the out-away copper pattern and let it overlap the previously scraped end of the good copper pattern. Solder the overlapped area and clip off any excess jumper wire.

At Other Connections
Use the following technique to repair the defective copper pattern at connections other than IC Pins. This technique involves the installation of a jumper wire on the component side of the circuit board.

1. Remove the defective copper pattern with a sharp knife. Remove at least 1/4 inch of copper, to ensure that a hazardous condition will not exist if the jumper wire opens.
2. Trace along the copper pattern from both sides of the pattern break and locate the nearest component that is directly connected to the affected copper pattern.
3. Connect insulated 20-gauge jumper wire from the lead of the nearest component on one side of the pattern break to the lead of the nearest component on the other side.
Carefully crimp and solder the connections.
CAUTION: Be sure the insulated jumper wire is dressed so that it does not touch components or sharp edges.

■ SPECIFICATION

Note: Specifications and others are subject to change without notic.

- **Video input system :**

PAL-B/G	O	PAL-D/K	
SECAM-B/G		SECAM-D/K	
PAL-I			

- **Power requirements :**
  AC230V, 50 Hz

- **Power consumption :**
  14" (70W), 20" (80W), 21" (85W)

- **Intermediate Frequency (unit : MHZ)**

Carrier	PAL-B/G	PAL-D/K	PAL-I	SECAM-B/G	SECAM-D/K
Vision (Vc)	38.9	38	39.5	38.9	38
Sound (Sc)	33.4	32	33.5	33.4	32
Color (Cc)	34.47	33.57	35.07	Vc-4.25 Vc-4.40625	Vc-4.25 Vc-4.40625

- **Tuning system :**
  VS (Voltage Synthesizer), 60 Program memory

- **Tuning Range**

Band	For TV	For CATV	Remarks
VHF-LOW	Ch 2-4	S1'-S3', S1	
VHF-HIGH	Ch 5-12	S2-S10, S11-S20	
HYPER		S21-S41	option
UHF	Ch 21-69		

- **Antenna input impedance :** VHF/UHF 75 ohm, Unbalanced

- **Voice coil impedance :** 8 ohm

- **OSD (On Screen Display) :** Menu method

- **Sound output :** (At 50 KHZ Deviation)
  14" : 1.5W typ-3.5W max.
  19"-21" : 2.0W typ-4.0W max.

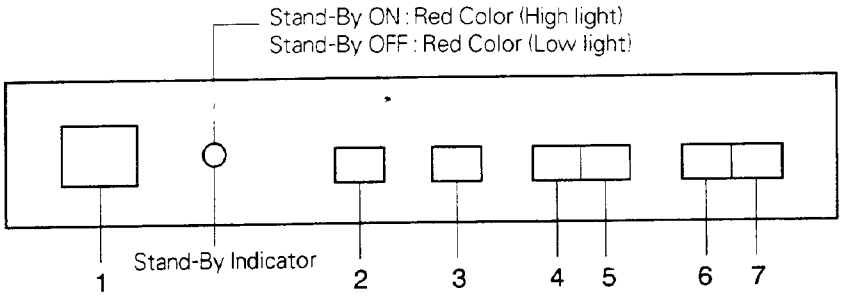
- **Local buttons :** Menu / OK / Volume up(+) / down(-) / Program up(+) / down(-)

- **External (through Euro-Socket) :**
  Audio in : 0.5 Vrms ± 3dB, over 10Kohm
  Audio out : 0.5 Vrms ± 3dB, below 1Kohm
  Video in/out : 1 Vp-p ± 3dB, 75 ohm
  R.G.B. in : 0.7 Vp-p ± 3dB

- **Function :** ACMS(Auto Channel Memory System)+α (Alpha)
  Manual Program
  Auto Sleep
  Quick View
  Child Lock : In case of choosing Lock On, you can power on/off only with Remote Controller. To cancel of this mode, Select Lock off with menu button on remote controller only.
  Teletext (FLOF/TOP/LIST)-OPTION

CONTROL DESCRIPTIONS

- **Local control**



NO	Button's Name	Description
1	MAIN POWER	To turn the TV power on
2	MENU	To show control menu ※ Refer to below <MENU Reference>
3	OK	To keep every selected status into memory
4	VOLUME DOWN	To decrease (-) volume
5	VOLUME UP	To increase (+) volume
6	PROGRAM DOWN	To change program No downwards
7	PROGRAM UP	To change program No upwards

<MENU Reference>

TYPE	OSD (On Screen Display)	Reference
Menu 1	Contrast Brightness colour	
Menu 2	MODE TV (or 1·) LOCK OFF (or ON) AUTO SLEEP OFF (or ON) OFF TIMER – – : – – ON TIMER – – : – –	● (TV or AV) ● ● ● ●
Menu 3	FINE TUNING AUTO PROGRAM MANUAL PROGRAM PR SKIP OFF (or ON) FORCED AV OFF (or ON) PR 01· · – –	 ● ●

- Use PROGRAM DOWN/UP, to select each one function in every Menus.

- To change analogue level in Menu 1 or
  To change status of each marked (●) in above Reference Column, you can use VOLUME DOWN/UP buttons.

NOTE : To keep every selected status in memory, press OK button.

DISASSEMBLY INSTRUCTIONS

Important note
This set is disconnected from the power supply through the converter transformer. An isolating transformer is necessary for service operations on the primary side of the converter transformer.

Back Cabinet Removal
Remove 4 screws residing on the back cabinet and carefully separate the back cabinet from the front cabinet.

CPT Removal

1. Pull out the CPT board from the CPT neck.
2. Place the front cabinet on soft material not to mar the front surface or damage control knobs.
3. Remove 4 screws securing the picture tube mounting brackets to the front cabinet.
4. Carefully separate CPT from the front cabinet.

Main Chassis Removal
After pushing and shifting to the left side the latch of the main chassis, pull the main chassis backward smoothly.

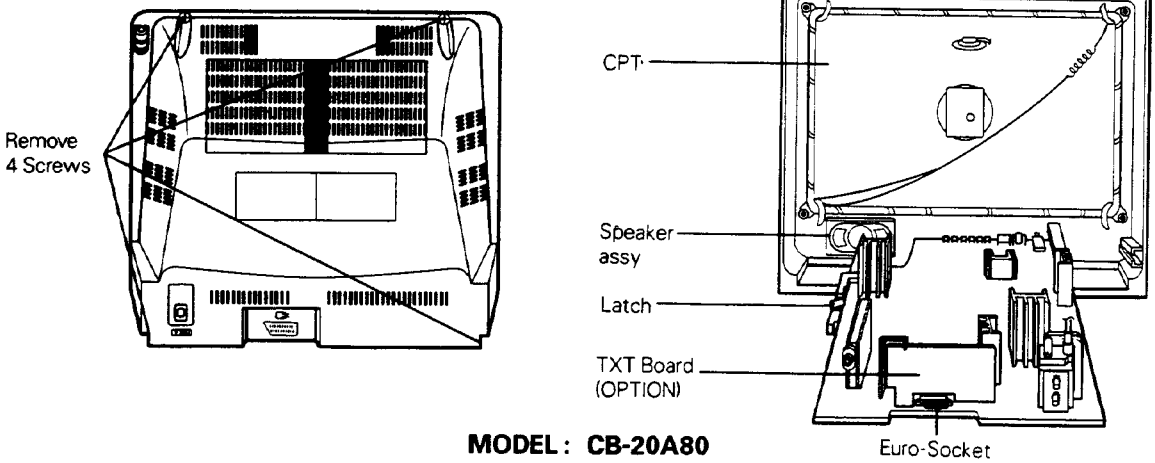
Speaker Assy Removal
1. Remove P601 connector between the speaker and the main chassis.
2. Remove 4 screws holding speaker to the front cabinet.

TXT BOARD Removal
Grasp the center area of the TXT board and then pull it up.

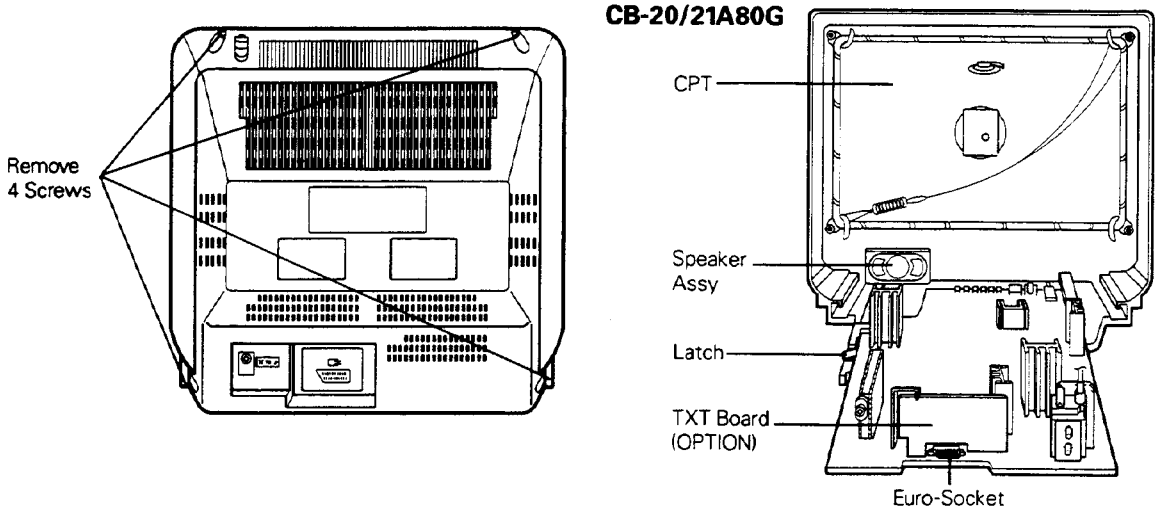
PICTURE TUBE HANDLING CAUTION

Due to high vacuum and large surface area of picture tube, great care must be exercised when handling picture tube. Always lift picture tube by grasping it firmly around faceplate.
NEVER LIFT TUBE BY ITS NECK! The picture tube must not be scratched or subjected to excessive pressure as fracture of glass may result in an implosion of considerable violence which can cause personal injury or property damage.

MODEL : CB-14A80G



MODEL : CB-20A80
CB-20/21A80G

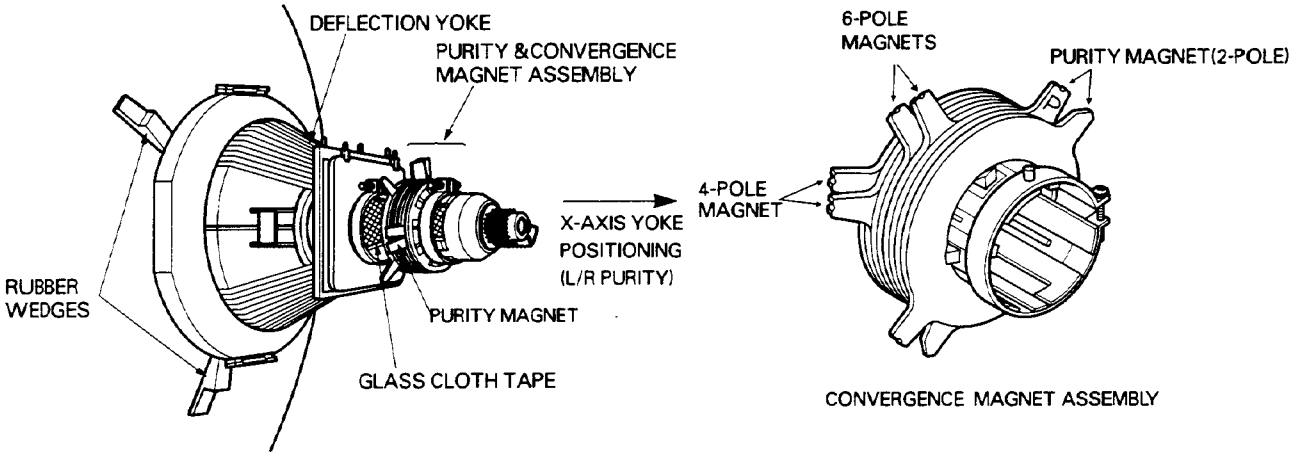


PURITY & CONVERGENCE ADJUSTMENT

Caution:
Convergence and Purity have been factory aligned. Do not attempt to tamper with these alignments.
However, the effects of adjacent receiver components, or replacement of picture tube or deflection yoke may require the need to readjust purity any convergence.

5. Reconnect the internal degaussing coil.

6. Position the beam bender locking rings at the 9 o'clock position and the other three pairs of tabs (2,4 and 6 pole magnets) at the 12 o'clock position.



• Purity Adjustment

This procedure DOES NOT apply to bonded yoke and picture tube assemblies.
The instrument should be at room temperature (60 degrees F or above) for six (6) hours and be operating at low beam current (dark background) for approximately 20 to 30 minutes before performing purity adjustments.

CAUTION: Do not remove any trim magnets that may be attached to the bell of the picture tube.

1. Remove the AC power and disconnect the internal degaussing coil.

2. Remove the yoke from the neck of the picture tube.

3. If the yoke has the tape version beam bender, remove it and replace it with a adjustable type beam bender (follow the instructions provided with the new beam bender)

4. Replace the yoke on the picture tube neck, temporarily remove the three (3) rubber wedges from the bell of the picture tube and then slide the yoke completely forward.

7. Perform the following steps, in the order given, to prepare the receiver for the purity adjustment procedure.

   a. Face the receiver in the "magnetic north" direction.

   b. Externally degauss the receiver screen with the television power turned off.

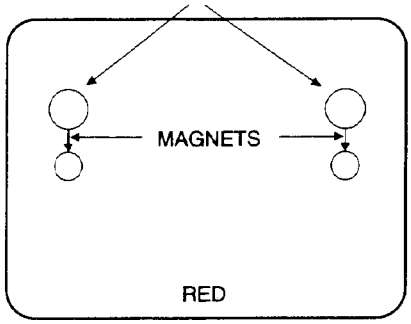
   c. Turn the television on for approximately 10 seconds to perform internal degaussing and then turn the TV off.

   d. Unplug the internal degaussing coil. This allows the thermistor to cool down while you are performing the purity adjustment. DO NOT MOVE THE RECEIVER FROM ITS "MAGNETIC NORTH" POSITION.

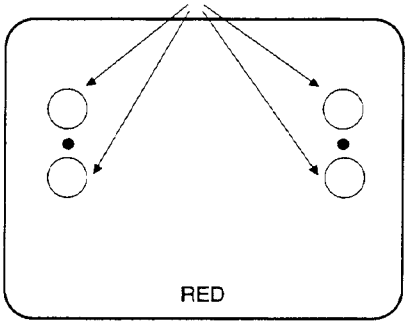
   e. Turn the receiver on and obtain a red raster by increasing the red bias control (CW) and decreasing the bias controls for the remaining two colors (CCW).

   f. Attach two round magnets on the picture tube screen at 3 o'clock and 9 o'clock positions, approximately one (1) inch from the edge of the mask (use double-sided tape).

1.ADJUST YOKE Z-AXIS FIRST TO GET EQUAL BLUE COLOR CIRCLES



2.ADJUST BEAM BENDER 2 POLE MAGNET TO GET FOUR EQUAL COLOR CIRCLES



8. Referring to above, perform the following two steps:
   a. Adjust the yoke Z-axis to obtain equal blue circles.
   b. Adjust the appropriate beam bender tabs to obtain correct purity (four equal circles).

9. After correct purity is set, tighten the yoke clamp screw and remove the two screen magnets.

10. Remove the AC power and rotate the receiver 180 degrees (facing "magnetic south").

11. Reconnect the internal degaussing coil.

12. Turn the receiver on for 10 seconds (make sure the receiver came on) to perform internal degaussing, and then turn the receiver off.

13. Unplug the internal degaussing coil.

14. Turn on the receiver and check the purity by holding one (1) round magnet at the 3 o'clock and a second round magnet at 9 o'clock position. If purity is not satisfactory, repeat steps 8 through 14.

15. Turn off the receiver and reconnect the internal degaussing coil.

• Convergence Adjustment

Caution: This procedure DOES NOT apply to bonded yoke and picture tube assemblies.
Do not use screen magnets during this adjustment procedure. Use of screen magnets will cause an incorrect display.

1. Remove AC power and disconnect the internal degaussing coil.

2. Apply AC Power and set the brightness to the Picture Reset condition. Set the Color control to minimum.

3. Apply 8V to the pin42 of IC501.

4. Adjust the Red, Green and Blue Bias controls to get a dim white line.

5. Remove the AC power and all jumpers.

6. Reconnect the internal degaussing coil and apply AC power.

7. Turn the receiver on for 10 seconds to perform internal degaussing and then turn the receiver off again.

8. Unplug the internal degaussing-coil.

9. Turn on the receiver, connect a signal generator to the VHF antenna terminal and apply a crosshatch signal.

Caution: During the convergence adjustment procedure, be very careful not to disturb the purity adjustment tabs are accidentally move, purity should be confirmed before proceeding with the convergence adjustments.

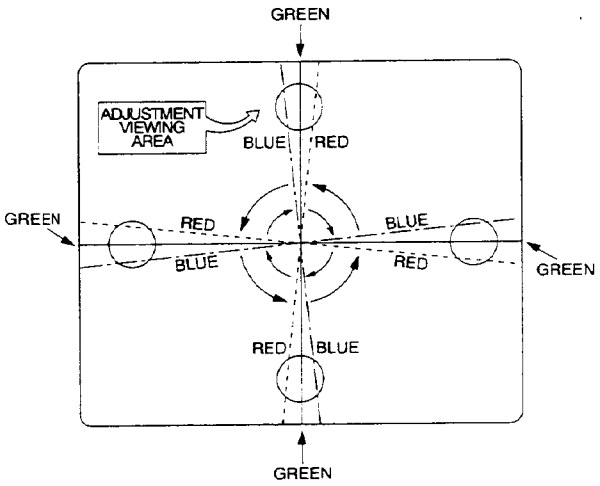
Note: Make sure the focus is set correctly on this instrument before proceeding with the following adjustment.

10. Converge the red and blue vertical lines to the green vertical line at the center of the screen by performing the following steps (below TABLE).
    a. Carefully rotate both tabs of the 4-pole ring magnet simultaneously in opposite directions from the 12 o'clock position to converge the red and blue vertical lines.
    b. Carefully rotate both tabs of the 6-pole ring magnet simultaneously in opposite directions form the 12 o'clock position to converge the red and blue (now purple) vertical lines with the green vertical line.

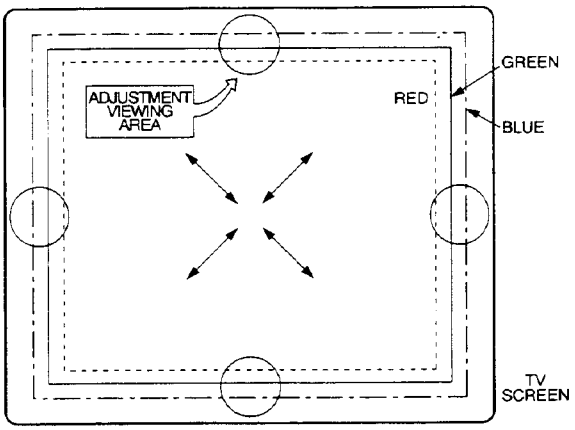
11. Converge the red and blue horizontal with the green line at the center of the screen by performing the following steps. (below TABLE)
    a. Carefully rotate both tabs of the 4-pole ring magnet simultaneously in the same direction (keep the spacing between the two tabs the same) to converge the red and blue horizontal lines.
    b. Carefully rotate both tabs of the 6-pole ring magnet simultaneously in same direction (keep the spacing between the two tabs the same) to converge the red and blue (now purple) horizontal lines with the green horizontal line.
    c. Secure the tabs previsouly adjusted by locking them in place with the locking tabs on the beam bender.

RING PAIRS	ROTATION DIRECTION OF BOTH TABS	MOVEMENT OF RED AND BLUE BEAMS
4 POLE	OPPOSITE	B R OR B R
	SAME	B R OR B R
6 POLE	OPPOSITE	B R OR B R
	SAME	B R OR B R

UP/DOWN ROCKING OF THE YOKE CAUSES OPPOSITE ROTATION OF RED AND BLUE RASTERS

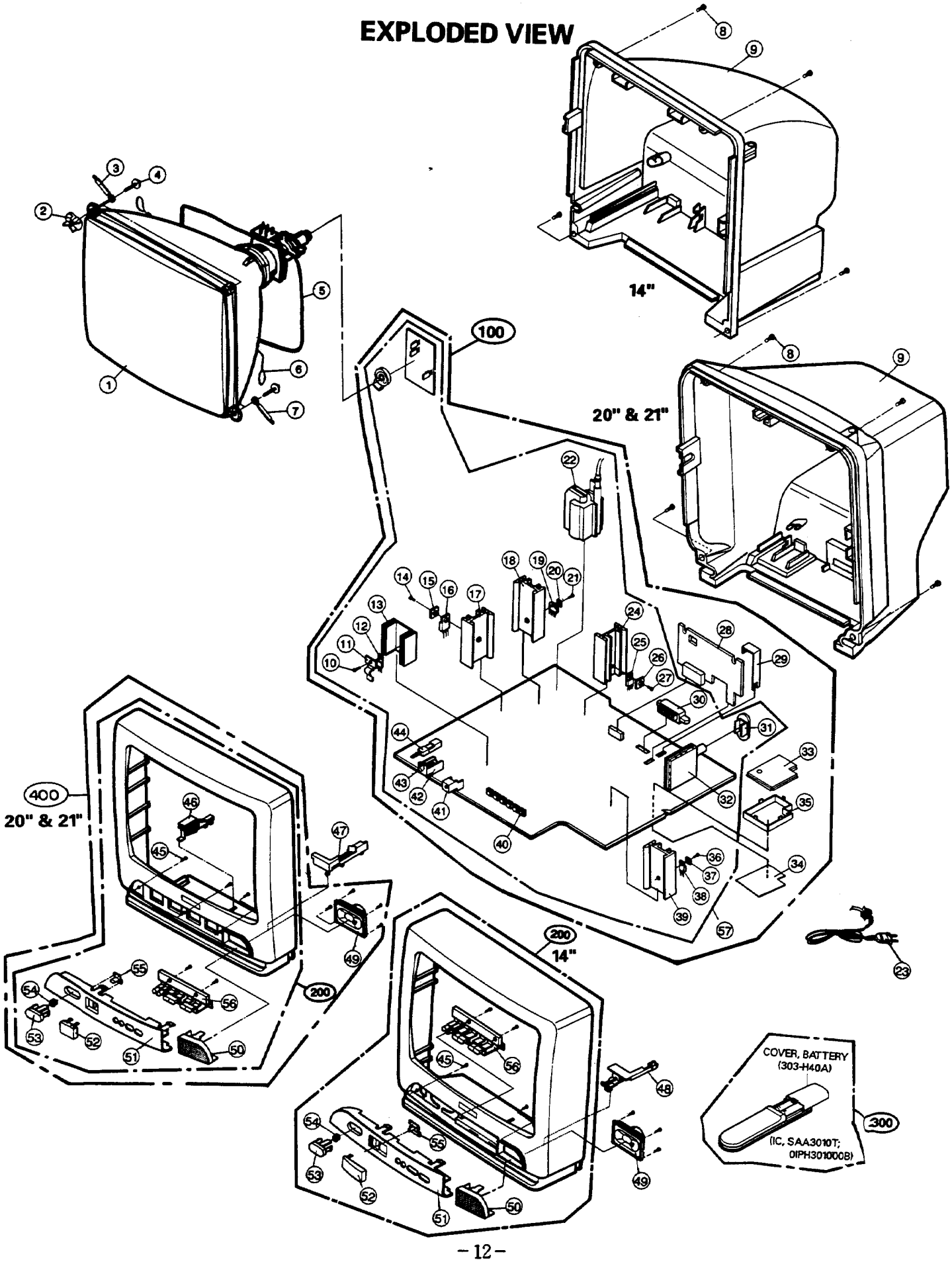


LEFT/RIGHT ROCKING OF THE YOKE CAUSES OPPOSITE SIZE CHANGE OF THE RED AND BLUE RASTERS



12. While watching the 6 o'clock positions on the screen, rock the front of the yoke in a vertical (up/down) direction to converge the red and blue vertical lines. (Fig upper left)
13. Temporarily place a rubber wedge at the 12 o'clock position to hold the vertical position or the yoke.
14. Check the 3 o'clock and 9 o'clock areas to confirm that the red and blue horizontal lines are converged.
    If the lines are not converged, slightly offset the vertical tilt of the yoke (move the rubber wedge if necessary) to equally balance the convergence error of the horizontal lines at 3 o'clock and 9 o'clock and the vertical lines at 6 o'clock and 12 o'clock.
15. Place a 1.5 inch piece of glass tape over the rubber foot at the rear of the 12 o'clock wedge.
16. While watching the 6 o'clock and 12 o'clock areas of the screen, rock the front of the yoke in the horizontal (left to right) motion to converge the red and blue horizontal lines. (Fig. upper right)
17. Temporarily place a rubber wedge at the 5 o'clock and 7 o'clock positions to hold the horizontal position of the yoke.
18. Check the 3 o'clock and 9 o'clock areas to confirm that the red and blue vertical lines are converged. If the lines are not converged, slightly offset the horizontal tilt of the yoke (move the temporary rubber wedges if necessary) to equally balance the convergence error of the horizontal lines at 6 o'clock and 12 o'clock and the vertical lines at 3 o'clock and 9 o'clock.
19. Using a round magnet confirm purity at the center, right and left sides and corners. See Purity Adjustment Procedure.
20. Reconfirm convergence and apply a 1.5 inch piece of glass tape over the rubber foot at the rear of the 5 o'clock and the 7 o'clock wedges.

EXPLODED VIEW



EXPLODED VIEW PARTS LIST

NO	DESCRIPTION	P/N (20")	P/N(21")	P/N(14")
⚠ 1	CPT	2055-V0642W	2055-V0672D	112-C14A(*)
2	SEAT, RUBBER	NOT IN USE		327-062F
3	HOLDER, D-COIL (L=65)	341-721A		
4	SCREW ASSY, HEXAGON HEAD	332-057B		
⚠ 5	COIL, DEGAUSSING	150-438J	150-438K	150-276F
⚠ 6	LEAD SET ASSY, CPT EARTH	170-851B		170-799A
7	HOLDER, D-COIL	341-721B		
8	SCREW	1PTF0403116		
9	COVER, BACK	303-G55BFORGS-DG 303-G55MFORDELCOM	303-H05A	303-G63T(*)
10	SCREW	1BPF0302016		
11	SPRING, PLATE	320-173A		
12	TRANSISTOR BUZ-90	0TR900000AA		
13	PLATE, HEAT SINK	407-E60G		
14	SCREW	1BPF0302616		
15	WASHER	334-036A		
16	TRANSISTOR KTD-1555	0TR155500AA		
17	PLATE, HEAT SINK	408-011D		
18	PLATE, HEAT SINK	408-011A		
19	IC, SANYO LA7833	0ISA783300A		
20	WASHER	334-036A		
21	SCREW	1BPF0302616		
⚠ 22	FBT	154-106C	154-194D	154-064P
23	CORD ASSY, POWER	174-171L		174-171R
24	PLATE, HEAT SINK	408-011C		
25	IC, KEC KIA7812P	0IKE781200A		
26	WASHER	334-036A		
27	SCREW	1BPF0302616		
28	TXT BOARD	NOT IN USE		
29	SUPPORTER TXT	NOT IN USE		
30	SCART-21 PINS	381-091A		
31	COVER, TUNER	303-F62A		
32	TUNER	113-238C		
33	COVER, SHIELD	303-H07A		
34	PLATE, SHIELD	407-Q69A		
35	CASE, SHIELD	302-719A		
36	SCREW	1BPF0302616		
37	WASHER	334-036A		
38	IC, SGS-THOMSON TDA 2006	0ISG200600A		
39	PLATE, HEAT SINK	408-011E		
40	SWITCH TACT	140-315B		
41	PRE-AMP	106-047B		
42	HOLDER, LED	341-783A		
43	DIODE, LED	0DD000000BA		
⚠ 44	SWITCH, MAIN	140-278C		
45	SCREW	1PTF0402816		
46	SUPPORTER, PCB	343-A55B	NOT IN USE	
47	BRACKET, CHA. RAIL	340-369A		NOT IN USE
48	HOLDER, PCB. RAIL	NOT IN USE		341-745A
49	SPEAKER ASSY	120-C93F		120-D04C
50	GRILL, SPEAKER	314-287B	314-306A	314-284E
51	PANEL, CONTROL	313-256A	313-262A	313-263K(*)
52	WINDOW, FILTER	316-409E	316-414A	316-410F
53	BUTTON, POWER	441-320B	441-347A	441-315D
54	SPRING, COIL	320-062H		320-070G
55	INDICATOR, PRE-AMP	454-027A		
56	BUTTON, CONTROL	441-341A	441-348A	441-308A(*)
57	PCB ASSY, MAIN	109-303E	109-303W	109-349C

SUB ASSY

100	CHASSIS ASSY, MAIN	309-B34E	309-B34R	309-B41B
200	CABINET ASSY	300-A86B	300-B06A	300-A73Y
300	TRANSMITTER ASSY	105-210B		
400	CABINET UNIT	306-006C	306-007D	NOT IN USE

Since the parts which are marked with" * " in this Exploded View Parts List are local parts, do not order them to Korea.

REPLACEMENT PARTS LIST

SAFETY PARTS LIST OF PC-31A CHASSIS ⚠

Many electrical and mechanical parts in this chassis have special safety-related characteristics. These characteristics are often passed without being noticed by a visual inspection and the X-RAY RADIATION protection afforded by some of them cannot necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified by ⚠ marks on the circuit diagram. Before replacing any these components, read the specification of the part carefully. The use of substitute replacement parts which do not have the same characteristics as specified in this parts list may create X-RAY RADIATION.

LOCA.NO	DESCRIPTION
DB801	DIODE
C805	CAPACITOR
C851	CAPACITOR
C852	CAPACITOR
C853	CAPACITOR
C854	CAPACITOR
FR401	RESISTOR, FUSIBLE
FR402	RESISTOR, FUSIBLE
FR403	RESISTOR, FUSIBLE
FR404	RESISTOR, FUSIBLE
FR405	RESISTOR, FUSIBLE
FR406	RESISTOR, FUSIBLE
FR601	RESISTOR, FUSIBLE
FR802	RESISTOR, FUSIBLE
FR803	RESISTOR, FUSIBLE
F801	FUSE
L851	COIL
Q801	TRANSISTOR
R851	RESISTOR
SW801	SWITCH
TH801	THERMISTOR
T401	FBT
T801	TRANSFORMER
	POWER SWITCH
	COLOR PICTURE TUBE(CPT)
	COIL, DEGAUSSING
	DEFLECTION YOKE(DY)

Three parts which are marked with "R" in the "AL" column of this replacement parts list are in the remote control unit. "A" is added on the copper side between the side of R19 which is connected with J25(Anode of A) and the side of R28 which is connected with the pin No. 22 of IC01. (Cathode of A)

[REPLACEMENT PARTS LIST] PAGE : 1

RUN-DATE : 94.07.06

S	AL	LOCA.NO	PART NO(GS)	DESCRIPTION	SPECIFICATION	REMARKS
	R		0CE3366F818	C,ELECTROLYTIC	33MF SMS 16V M	
	A		00D414809ED	DIODE	DS4148	
	R		0IPH301000B	IC,PHILIPS	SAA3010T,28D,TX IC	
			1PPF0403116	SCREW,PAN HEAD TAP TITE +	D4 L16 MSWR3/BK	
			1PRF0302816	SCREW,BRAIZER HD TAP TITE +	D3 L12 MSWR3/BK	
			105-210B	TRANSMITTER	(PC-31A W/O TXT G/S)	
			109-303E	PCB ASSY	MAIN(PAL B/G 20")(M-IN)SUPER A	20
			109-303W	PCB ASSY	MAIN (PAL-B/G 21" M-IN)	21
			109-349C	PCB ASSY	MAIN B/G W/O TXT(M-IN)	14
			120-C93F	SPEAKER	05F14BRC 8 OHM 3W*5W 50*90	21
			120-C93F	SPEAKER	05F14BRC 8 OHM 3W*5W 50*90	20
			120-D04C	SPEAKER	C072P(8 OHM)	14
			120-D34B	SPEAKER	ASSY,C93F,140M/M,DRAWING	21
			120-D34B	SPEAKER	ASSY,C93F,140M/M,DRAWING	20
			132-199C	ANTENNA	ROD.(W/ADAPTER L=500)	14
			150-276F	COIL	DEGAUSSING,14",42T(D)	14
			150-438J	COIL	DEGAUSSING,21"(D) SHORT LEAD	20
			150-438K	COIL	DEGAUSSING,21"60T 120HM	21
			153-110F	DY	DCAN1*110F-21FSAA	21
			153-151D	DY	DCAM1*151D-20PLAA	20
	R		166-015U	FILTER	KBR455BKTLR(WASHABLE)	
			170-799A	LEAD SET	ASSY,CPT EARTH (14")	14
			170-851B	LEAD SET	ASSY,CPT EARTH(L=640)	21
			170-851B	LEAD SET	ASSY,CPT EARTH(L=640)	20
			174-171L	CORD	ASSY POWER (PC004A)	21
			174-171L	CORD	ASSY POWER (PC004A)	20
			174-171R	CORD	ASSY POWER (179B,CKD)	14
			174-179B	CORD	DW-1	
			2055-V0642W	CPT	A48KMX12XX 25N7KD	20
			2055-V0672D	CPT	A51KPD12XX 14N7KD	21
			300-A73Y	CABINET ASSY	KCB14A80 (WESTON-DG)	14
			300-A86B	CABINET ASSY	CB-20A80X	20
			300-B06A	CABINET ASSY	CB-21A80X	21
			303-F62A	COVER	TUNER	20
			303-F62A	COVER	TUNER	21
			303-G85B	COVER	ASSY BACK CB-20A80X	20
			303-H05A	COVER	ASSY,BACK(CB-21A80X)	21
			303-H40A	COVER	BATTERY (105-210 TX)	14
			305-002D	HOUSING	2P AMP 171157-1 (10)	
			306-006C	CABINET UNIT	CB-20A80X,(300-A86B,FTZ)	20
			306-007D	CABINET UNIT	CB21A80X BPGRG1(300-B06A)	21
			309-B34E	CHASSIS ASSY	MAIN(PAL B/G W/O TXT 20")	20
			309-B34R	CHASSIS ASSY	MAIN (PAL B/G W/O TXT 21")	21
			309-B41B	CHASSIS ASSY	MAIN B/G W/O TXT(FTZ)	14
			313-256A	PANEL	CONTROL CB-20A80X	20
			313-262A	PANEL	ASSY,CONTROL(CB-21A80X)	21
			313-263K	PANEL	ASSY,CONTROL(KCB14A80,WESTON)	14
			314-284E	GRILL	SPEAKER(CB-14A80,CKD)	14
			314-287B	GRILL	SPEAKER CB-20A80X	20
			314-306A	GRILL	SPEAKER(CB-21A80X)	21

S	AL	LOCA.NO	PART NO(GS)	DESCRIPTION	SPECIFICATION	REMARKS
			316-409E	WINDOW	DISPLAY (CB-20A80X)	20
			316-410F	WINDOW	FILTER(CB-14A80,CKD)	14
			316-414A	WINDOW	DISPLAY(CB-21A80X)	21
			320-062H	SPRING	COIL	20
			320-062H	SPRING	COIL	21
			320-070G	SPRING	COIL	14
			327-062F	SEAT	RUBBER	
			332-057B	SCREW	ASSY,HEXAGON HEAD	
			340-369A	BRACKET	CHA.RAIL CIT-9172/75	20
			340-369A	BRACKET	CHA.RAIL CIT-9172/75	21
			341-184D	HOLDER	LEAD TWISTER	
			341-242F	HOLDER	POWER CORD	
			341-721A	HOLDER	D-COIL (FOR AUTO.L=65)	
			341-721B	HOLDER	D-COIL (FOR AUTO.L=130)	
			341-745A	HOLDER	PCB,RAIL(CN-14A80/82)	14
			343-A55B	SUPPORTER	PCB,CB-20A80X	20
			347-649A	BAND	CABLE TIES	
			387-742H	CONNECTOR ASSY	ASSY 3P(PC31A,FTZ)	
			410-609A	MARK	BRAND(14"FORGING-DIA.GOLD)	14
			410-618B	MARK	BRAND(H/STAMPING,20",SILVER)	20
			410-618B	MARK	BRAND(H/STAMPING,20",SILVER)	21
			441-320B	BUTTON	POWER CB-20A80X	20
			441-341A	BUTTON	CONTROL CB-20A80	20
			441-347A	BUTTON	POWER(CB-21A80X)	21
			441-348A	BUTTON	CONTROL(CB-21A80X)	21
			441-494A	BUTTON	POWER(CI-14A80,PAL ONLY)	14
			454-027A	INDICATOR	PRE-AMP CB-20A80	
			482-H05G	INSTRUCTIONS(OWNER'S MANUAL)	PC31AA,GS,G,212D/210B,Q-REFER	
			484-856B	DIAGRAM	CIRCUIT FOR PC31A(TI)	
			486-181B	CARD	DBP (QUELLE)	
			486-366B	CARD	WARRANTY-GSDG(12 MONTH)	
		C01	0CX4700K409	C,TUBULA(T.C)	47PF 50V J	
		C02	0CE1066K618	C,ELECTROLYTIC	10MF SMS 50V M	
		C03	0CN1020K519	C,TUBULA(HIGH DIELE)	1000PF 50V K	
		C08	0CN2230H949	C,TUBULA(HIGH DIELE)	22000P 25V Z F	
		C10	0CN2230H949	C,TUBULA(HIGH DIELE)	22000P 25V Z F	
		C11	0CE1066F618	C,ELECTROLYTIC	10MF SMS 16V M	
		C111	0CN1030F679	C,TUBULA(HIGH DIELE)	0.01MF 16V M	
		C112	0CQ2231N509	C,POLYESTER(MYLAR)	0.022MF 100V K	
		C113	0CE2256K618	C,ELECTROLYTIC	2.2MF SMS 50V M	
		C114	0CQ1041N509	C,POLYESTER(MYLAR)	0.1MF 100V L	
		C12	0CN1040K949	C,TUBULA(HIGH DIELE)	0.1M 50V Z	
		C13	0CX1500K409	C,TUBULA(T.C)	15PF 50V J	
		C17	0CN2230H949	C,TUBULA(HIGH DIELE)	22000P 25V Z F	
		C18	0CN2210K519	C,TUBULA(HIGH DIELE)	220PF 50V K	
		C181	0CE1076F618	C,ELECTROLYTIC	100MF SMS 16V M	
		C182	0CN1030F679	C,TUBULA(HIGH DIELE)	0.01MF 16V M	
		C183	0CE4756K618	C,ELECTROLYTIC	4.7MF SMS 50V M	
		C184	0CE1066F618	C,ELECTROLYTIC	10MF SMS 16V M	
		C185	0CE4756K618	C,ELECTROLYTIC	4.7MF SMS 50V M	

S	AL	LOCA.NO	PART NO(GS)	DESCRIPTION	SPECIFICATION	REMARKS
		C186	0CQ1041N509	C,POLYESTER(MYLAR)	0.1MF 100V L	
		C187	0CQ1041N509	C,POLYESTER(MYLAR)	0.1MF 100V L	
		C188	0CE4756K618	C,ELECTROLYTIC	4.7MF SMS 50V M	
		C189	0CE4746K618	C,ELECTROLYTIC	0.47MF SMS 50V M	
		C19	0CN1040K949	C,TUBULA(HIGH DIELE)	0.1M 50V Z	
		C20	0CN1010K519	C,TUBULA(HIGH DIELE)	100PF 50V K	
		C202	0CX1200K409	C,TUBULA(T.C)	12PF 50V J	
		C203	0CE1066F618	C,ELECTROLYTIC	10MF SMS 16V M	
		C21	0CQ1041N509	C,POLYESTER(MYLAR)	0.1MF 100V L	
		C212	0CX4700K409	C,TUBULA(T.C)	47PF 50V J	
		C22	181-444J	C,METALPOLYESTER	0.22MF 50V J	
		C223	0CN1030F679	C,TUBULA(HIGH DIELE)	0.01MF 16V M	
		C224	0CE4756K618	C,ELECTROLYTIC	4.7MF SMS 50V M	
		C225	0CQ1041N509	C,POLYESTER(MYLAR)	0.1MF 100V L	
		C226	0CN1040K949	C,TUBULA(HIGH DIELE)	0.1M 50V Z	
		C227	0CE1076F618	C,ELECTROLYTIC	100MF SMS 16V M	
		C228	0CN2230H949	C,TUBULA(HIGH DIELE)	22000P 25V Z F	
		C23	0CQ2221N509	C,POLYESTER(MYLAR)	0.0022U 100V K	
		C231	0CQ1041N509	C,POLYESTER(MYLAR)	0.1MF 100V L	
		C232	0CQ1041N509	C,POLYESTER(MYLAR)	0.1MF 100V L	
		C24	0CE3376D618	C,ELECTROLYTIC	330M SMS 10V M	
		C25	0CN1030F679	C,TUBULA(HIGH DIELE)	0.01MF 16V M	
		C252	0CN1020K519	C,TUBULA(HIGH DIELE)	1000PF 50V K	
		C255	0CE1066F618	C,ELECTROLYTIC	10MF SMS 16V M	
		C256	0CQ1021N509	C,POLYESTER(MYLAR)	0.001U 100V K	
		C258	0CE4766F618	C,ELECTROLYTIC	47MF SMS 16V M	
		C259	0CN1020K519	C,TUBULA(HIGH DIELE)	1000PF 50V K	
		C260	0CK1030K945	C,CERAMIC(HIGH DIELE)	0.01MF 50V Z	
		C27	0CE1066F618	C,ELECTROLYTIC	10MF SMS 16V M	
		C277	0CN1030F679	C,TUBULA(HIGH DIELE)	0.01MF 16V M	
		C28	0CE1076D618	C,ELECTROLYTIC	100MF SMS 10V M	
		C29	0CE4776F618	C,ELECTROLYTIC	470MF SMS 16V M	
		C30	0CE4766F618	C,ELECTROLYTIC	47MF SMS 16V M	
		C301	0CQ4721N409	C,POLYESTER(MYLAR)	4700PF 100V J	
		C302	0CQ1041N509	C,POLYESTER(MYLAR)	0.1MF 100V L	
		C31	0CE1076F618	C,ELECTROLYTIC	100MF SMS 16V M	
		C311	0CX1000K409	C,TUBULA(T.C)	10P 50V J	
		C312	0CQ1021N509	C,POLYESTER(MYLAR)	0.001U 100V K	
		C313	0CE477BJ618	C,ELECTROLYTIC	470UF KME (RG) 35V	
		C314	0CE227BJ618	C,ELECTROLYTIC	220U KME 35V M	
		C315	0CE476BK618	C,ELECTROLYTIC	47UF KME 50V M	
		C316	0CQ1041N509	C,POLYESTER(MYLAR)	0.1MF 100V L	
		C317	0CE1086J618	C,ELECTROLYTIC	1000M SMS 35V M	
		C318	0CE1056K618	C,ELECTROLYTIC	1.0MF SMS 50V M	
		C32	0CE1076F618	C,ELECTROLYTIC	100MF SMS 16V M	
		C321	181-0321	CAPACITOR,TANTAL	1.0MF 25V K TAPING	
		C322	0CE1066K618	C,ELECTROLYTIC	10MF SMS 50V M	
		C33	0CN3310K519	C,TUBULA(HIGH DIELE)	330P 50V K	
		C34	0CN1010K519	C,TUBULA(HIGH DIELE)	100PF 50V K	
		C400	0CE1058R618	C,ELECTROLYTIC	1UF KME 250V M	

S	AL	LOCA.NO	PART NO(GS)	DESCRIPTION	SPECIFICATION	REMARKS
		C401	0CC8210K405	CAPACITOR CERAMIC(TEMP COMP)	820P 50V J SL TS	
		C403	0CQ1031N509	C,POLYESTER(MYLAR)	0.01U 100V K	
		C404	0CE105BR618	C,ELECTROLYTIC	1UF KME 250V M	
		C411	0CC47111545	C,CERAMIC(TEMP COMP)	470PF 105C 1KV K	
		C412	0CE1086J618	C,ELECTROLYTIC	1000M SMS 35V M	
		C413	0CC47111545	C,CERAMIC(TEMP COMP)	470PF 105C 1KV K	
		C414	0CE227BJ618	C,ELECTROLYTIC	220U KME 35V M	
		C415	0CE2276F618	C,ELECTROLYTIC	220MF SMS 16V M	
		C416	0CK4710W515	C,CERAMIC(HIGH DIELE)	470PF 500V K	
		C417	0CE3366K618	C,ELECTROLYTIC	33MF SMS 50V M	
		C418	0CE4756K618	C,ELECTROLYTIC	4.7MF SMS 50V M	
		C420	0CN2210K519	C,TUBULA(HIGH DIELE)	220PF 50V K	
		C421	181-452B	CAPACITOR	MPP 1.6KV 602H	14
		C421	181-452F	C,METAL POLYPROPYLENE	1.6KV 8200PF H	21
		C421	181-452G	C,MPP	1.6KV 8600PF H	20
		C422	181-128B	C,METAL POLYPROPYLENE	0.47MF 200V J	20
		C422	181-128H	CAPACITOR	CAPACITOR MPP 0.43MF	21
		C422	181-128K	C,METAL POLYPROPYLENE	0.62MF 200V	14
		C423	0CK4710W515	C,CERAMIC(HIGH DIELE)	470PF 500V K	
		C424	0CE2261R618	C,ELECTROLYTIC	22M SM 250V M	
		C425	181-059D	C,POLYPROPYLENE	0.047MF 200V K	
		C426	0CE1076F618	C,ELECTROLYTIC	100MF SMS 16V M	
		C427	0CE105BR618	C,ELECTROLYTIC	1UF KME 250V M	
		C431	0CN1030F679	C,TUBULA(HIGH DIELE)	0.01MF 16V M	
		C432	0CE2276F618	C,ELECTROLYTIC	220MF SMS 16V M	
		C433	0CQ2721N409	C,POLYESTER(MYLAR)	2700PF 100V J	
		C434	0CQ4721N409	C,POLYESTER(MYLAR)	4700PF 100V J	
		C435	0CE4756K618	C,ELECTROLYTIC	4.7MF SMS 50V M	
		C436	0CE1056K618	C,ELECTROLYTIC	1.0MF SMS 50V M	
		C501	0CE1066F618	C,ELECTROLYTIC	10MF SMS 16V M	
		C502	0CQ1041N509	C,POLYESTER(MYLAR)	0.1MF 100V L	
		C503	0CQ1041N509	C,POLYESTER(MYLAR)	0.1MF 100V L	
		C504	0CQ1041N509	C,POLYESTER(MYLAR)	0.1MF 100V L	
		C505	0CE4766F618	C,ELECTROLYTIC	47MF SMS 16V M	
		C506	0CE2256K618	C,ELECTROLYTIC	2.2MF SMS 50V M	
		C507	0CE2266F618	C,ELECTROLYTIC	22MF SMS 16V M	
		C508	0CQ1041N509	C,POLYESTER(MYLAR)	0.1MF 100V L	
		C511	0CQ1041N509	C,POLYESTER(MYLAR)	0.1MF 100V L	
		C512	0CQ1041N509	C,POLYESTER(MYLAR)	0.1MF 100V L	
		C513	0CQ4721N409	C,POLYESTER(MYLAR)	4700PF 100V J	
		C514	0CQ1021N509	C,POLYESTER(MYLAR)	0.001U 100V K	
		C515	0CC1500K415	C,CERAMIC(TEMP COMP)	15P 50V J	
		C516	0CQ1021N509	C,POLYESTER(MYLAR)	0.001U 100V K	
		C517	0CQ1021N509	C,POLYESTER(MYLAR)	0.001U 100V K	
		C518	0CN2230H949	C,TUBULA(HIGH DIELE)	22000P 25V Z F	
		C521	0CN2230H949	C,TUBULA(HIGH DIELE)	22000P 25V Z F	
		C522	0CE4766F618	C,ELECTROLYTIC	47MF SMS 16V M	
		C524	0CE1076F618	C,ELECTROLYTIC	100MF SMS 16V M	
		C527	0CK2230K945	CAPACITOR CERAMIC(HIGH DIELE)	0.022M 50V Z F TS	
		C528	0CE2256K618	C,ELECTROLYTIC	2.2MF SMS 50V M	

S	AL	LOCA.NO	PART NO(GS)	DESCRIPTION	SPECIFICATION	REMARKS
		C531	0CE4756K618	C,ELECTROLYTIC	4.7MF SMS 50V M	
		C532	0CQ1031N509	C,POLYESTER(MYLAR)	0.01U 100V K	
		C533	0CQ1031N509	C,POLYESTER(MYLAR)	0.01U 100V K	
		C534	0CQ1031N509	C,POLYESTER(MYLAR)	0.01U 100V K	
		C535	0CE4756K618	C,ELECTROLYTIC	4.7MF SMS 50V M	
		C536	0CE4756K618	C,ELECTROLYTIC	4.7MF SMS 50V M	
		C538	0CE4756K618	C,ELECTROLYTIC	4.7MF SMS 50V M	
		C539	0CE4766F618	C,ELECTROLYTIC	47MF SMS 16V M	
		C59	0CN1030F679	C,TUBULA(HIGH DIELE)	0.01MF 16V M	
		C601	0CE1066K618	C,ELECTROLYTIC	10MF SMS 50V M	
		C602	181-444G	C,METALPOLYESTER	0.15MF 50V (TR)	
		C603	0CE2256K618	C,ELECTROLYTIC	2.2MF SMS 50V M	
		C604	0CE1066K618	C,ELECTROLYTIC	10MF SMS 50V M	
		C605	0CQ1041N509	C,POLYESTER(MYLAR)	0.1MF 100V L	
		C606	0CE4776F618	C,ELECTROLYTIC	470MF SMS 16V M	
		C607	181-444N	C,METALPOLYESTER	0.47MF 50V J	
		C608	0CE1086H618	C,ELECTROLYTIC	1000U SMS 25V M	
		C609	0CQ6821N509	C,POLYESTER(MYLAR)	0.0068U 100V K	
		C610	0CE1066K618	C,ELECTROLYTIC	10MF SMS 50V *M	
		C611	0CE1066K618	C,ELECTROLYTIC	10MF SMS 50V M	
		C62	0CN1020K519	C,TUBULA(HIGH DIELE)	1000PF 50V K	
		C801	0CK10201515	CAPACITOR,CERAMIC(HIGH DIELE)	1000P 1KV K B TS	
		C802	0CK10201515	CAPACITOR,CERAMIC(HIGH DIELE)	1000P 1KV K B TS	
		C803	0CK10201515	CAPACITOR,CERAMIC(HIGH DIELE)	1000P 1KV K B TS	
		C804	0CK10201515	CAPACITOR,CERAMIC(HIGH DIELE)	1000P 1KV K B TS	
		C805	181-474B	CAPACITOR	CE(400V/200UF)SRF LEAD TYPE	
		C806	181-415H	CAPACITOR	BOX MPF 630V 0.033MF	
		C807	0CQ8221N519	CAPACITOR POLYESTER(MYLAR)	0.0082U 100V K POLY NI TP	
		C808	0CE4766H618	C,ELECTROLYTIC	47M SMS 25V M	
		C81	0CE1056K618	C,ELECTROLYTIC	1.0MF SMS 50V M	
		C811	0CK22102515	C,CERAMIC(HIGH DIELE)	220P 2KV K	
		C812	181-444J	C,METALPOLYESTER	0.22MF 50V J	
		C814	0CE1056K618	C,ELECTROLYTIC	1.0MF SMS 50V M	
		C817	0CK4710W515	C,CERAMIC(HIGH DIELE)	470PF 500V K	
		C818	0CK4710W515	C,CERAMIC(HIGH DIELE)	470PF 500V K	
		C819	0CE4776F618	C,ELECTROLYTIC	470MF SMS 16V M	
		C82	0CE1076F618	C,ELECTROLYTIC	100MF SMS 16V M	
		C820	0CE2276J618	C,ELECTROLYTIC	220M SMS 35V M	
		C821	0CE1076F618	C,ELECTROLYTIC	100MF SMS 16V M	
		C822	0CE1076J618	C,ELECTROLYTIC	100M SMS 35V M	
		C824	0CC10211545	C,CERAMIC(TEMP COMP)	1000PF 105C 1KV K	
		C825	0CC47111545	C,CERAMIC(TEMP COMP)	470PF 105C 1KV K	
		C827	0CE1071P650	C,ELECTROLYTIC	100M SM 160V M	
		C828	0CE1071P650	C,ELECTROLYTIC	100M SM 160V M	
		C850	0CK4720K515	CAPACITOR CERAMIC(HIGH DIELE)	4700P 50V K B TS	
		C851	181-408C	CAPACITOR	250V 0.47UF(ISKRA)	
		C852	181-408C	CAPACITOR	250V 0.47UF(ISKRA)	
		C853	181-120G	CAPACITOR	ACT 4KV E 472M FL10	
		C854	181-120G	CAPACITOR	ACT 4KV E 472M FL10	
		C901	0CN2210K519	C,TUBULA(HIGH DIELE)	220PF 50V K	

S	AL	LOCA.NO	PART NO(GS)	DESCRIPTION	SPECIFICATION	REMARKS
		C901	0CN2710K519	C,TUBULA(HIGH DIELE)	270PF 50V K	20
		C901	0CN2710K519	C,TUBULA(HIGH DIELE)	270PF 50V K	21
		C902	0CN2210K519	C,TUBULA(HIGH DIELE)	220PF 50V K	20
		C902	0CN2210K519	C,TUBULA(HIGH DIELE)	220PF 50V K	
		C902	0CN2210K519	C,TUBULA(HIGH DIELE)	220PF 50V K	21
		C903	0CN2210K519	C,TUBULA(HIGH DIELE)	220PF 50V K	20
		C903	0CN2210K519	C,TUBULA(HIGH DIELE)	220PF 50V K	
		C903	0CN2210K519	C,TUBULA(HIGH DIELE)	220PF 50V K	21
		C904	0CE4766F618	C,ELECTROLYTIC	47MF SMS 16V M	
		C905	0CK12202510	CAPACITOR,CERAMIC(HIGH DIELE)	1200PF 2KV K B S	
		DB801	162-045A	DIODE	BRIDGE,RB-156	
		D09	0DD414809ED	DIODE	DS4148	
		D181	0DD414809ED	DIODE	DS4148	
		D211	0DD414809ED	DIODE	DS4148	
		D212	0DD414809ED	DIODE	DS4148	
		D301	0DD060009AC	DIODE	TVR06J 0.6A/600V 250NS	
		D302	0DD414809ED	DIODE	DS4148	
		D401	0DD060009AC	DIODE	TVR06J 0.6A/600V 250NS	
		D402	0DD410000AB	DIODE	RU4C,LF-L1 SANKEN SANKEN	
		D403	0DD060009AC	DIODE	TVR06J 0.6A/600V 250NS	
		D404	0DD414809ED	DIODE	DS4148	
		D405	0DD060009AC	DIODE	TVR06J 0.6A/600V 250NS	
		D406	0DD414809ED	DIODE	DS4148	
		D407	0DD414809ED	DIODE	DS4148	
		D408	0DD060009AC	DIODE	TVR06J 0.6A/600V 250NS	
		D409	0DD060009AC	DIODE	TVR06J 0.6A/600V 250NS	
		D410	0DD060009AC	DIODE	TVR06J 0.6A/600V 250NS	
		D411	0DD414809ED	DIODE	DS4148	
		D421	0DD060009AC	DIODE	TVR06J 0.6A/600V 250NS	
		D422	0DD060009AC	DIODE	TVR06J 0.6A/600V 250NS	
		D507	0DD414809ED	DIODE	DS4148	
		D508	0DD414809ED	DIODE	DS4148	
		D601	0DD414809ED	DIODE	DS4148	
		D602	0DD414809ED	DIODE	DS4148	
		D801	0DD414809ED	DIODE	DS4148	
		D802	0DD414809ED	DIODE	DS4148	
		D803	0DD060009AC	DIODE	TVR06J 0.6A/600V 250NS	
		D804	0DD410000AB	DIODE	RU4C,LF-L1 SANKEN SANKEN	
		D805	0DD060009AC	DIODE	TVR06J 0.6A/600V 250NS	
		D806	0DD060009AC	DIODE	TVR06J 0.6A/600V 250NS	
		D807	0DD414809ED	DIODE	DS4148	
		D901	0DD414809ED	DIODE	DS4148	
		D902	0DD414809ED	DIODE	DS4148	
		D903	0DD414809ED	DIODE	DS4148	
		FR401	0RF0471H609	R,FUSIBLE	4.7 1/2W 5	
		FR402	0RF0470J607	R,FUSIBLE	0.47 1W 5%	
		FR403	0RF0561H609	R,FUSIBLE	5.6 1/2W 5	
		FR404	0RF0201J607	R,FUSIBLE	2 1W 5%	20
		FR404	0RF0391J607	RESISTOR,FUSIBLE	3.90 1W 5% TA62	21
		FR404	0RF0561J607	RESISTOR,FUSIBLE	5.60 1W 5% TA62	14

S	AL	LOCA.NO	PART NO(GS)	DESCRIPTION	SPECIFICATION	REMARKS
		FR405	0RF0101H609	R,FUSIBLE	1.0 1/2W 5	
		FR406	0RF0201J607	R,FUSIBLE	2 1W 5%	20
		FR406	0RF0301J607	R,FUSIBLE	3 1W 5%	21
		FR406	0RF0561J607	RESISTOR,FUSIBLE	5.60 1W 5% TA62	14
		FR601	0RF0102J607	R,FUSIBLE	10 1W 5%	
		FR802	0RF0221H609	R,FUSIBLE	2.2 1/2W 5	
		FR803	0RF0101H609	R,FUSIBLE	1.0 1/2W 5	
		F801	131-098B	FUSE	4A/250V H8C TIME DELAY 5X20	
		IC01	0IS0843401B	IC,SONY	GS8434-01B(CXP85112B-508S)64SD	
		IC02	0IAL240410A	IC, ATMEL	AT24C04-10PC 8D EEPROM(4K,IIC)	
		IC03	0IKE704200B	IC,KEC	KIA7042P 3P 4.2V RESET(TAPING)	
		IC04	0IGS780500A	IC, GOLDSTAR ELECTRON	GL7805 REGULATOR	
		IC201	167-115A	IC	GSH9311(GS-ALPS) 8PIN RGB BUF.	
		IC301	0ISA783300A	IC,SANYO	LA7833 7SIP V/OUT 2.2A(P-P)	
		IC401	0IKE781200A	IC,KEC	KIA7812P(KIA78012AP),KEC	
		IC501	0IPH836130A	IC,PHILIPS	TDA8361/N3 52SD PAL 1 CHIP	
		IC502	0IPH466120A	IC,PHILIPS	TDA4661/V2 16D 1H DELAY LINE	
		IC504	0IMA586000A	IC,MATSUSHITA	AN5860 14D ANALOG RGB S/W	
		IC601	0ISG200600A	IC, SGS-THOMSON	TDA2006,SOUND	
		IC801	0ISM460520A	IC,SIEMENS	TDA4605-2 8DIP SMPS CONTROLER	
		JA204	381-091A	SOCKET	SCART JACK 21PIN"	
		J02	0RD4700F609	R,CARBON FILM	470 1/6W 5	
		LD01	0DD000000BA	DIODE	LAMP(DIFFUSION TYPE)	
		L01	0LA0561K119	INDUCTOR AXIAL LEAD	5.6UH K 2.3*3.4 TP	
		L02	0LA1000K119	INDUCTOR AXIAL LEAD	100UH K 2.3*3.4 TP	
		L03	0LA0470K119	INDUCTOR AXIAL LEAD	0.47UH K 2.3*3.4 TP	
		L08	0LA0472K119	INDUCTOR AXIAL LEAD	47UH K 2.3*3.4 TP	
		L100	150-167D	COIL	CHOKE 1.0 UH	
		L101	166-274A	FILTER	TRAP(40.4)	
		L181	0LA0561K119	INDUCTOR AXIAL LEAD	5.6UH K 2.3*3.4 TP	
		L182	0LA0332K119	INDUCTOR AXIAL LEAD	33UH K 2.3*3.4 TP	
		L201	0LA0331K119	INDUCTOR AXIAL LEAD	3.3UH K 2.3*3.4 TP	
		L202	0LA0471K119	INDUCTOR AXIAL LEAD	4.7UH K 2.3*3.4 TP	
		L203	0LA0681K119	INDUCTOR AXIAL LEAD	6.8UH K 2.3*3.4 TP	
		L204	0LA0152K119	INDUCTOR AXIAL LEAD	15UH K 2.3*3.4 TP	
		L240	125-022K	CORE	FERRITE 1UH	
		L242	125-022K	CORE	FERRITE 1UH	
		L251	0LA1000K119	INDUCTOR AXIAL LEAD	100UH K 2.3*3.4 TP	
		L252	0LA1000K119	INDUCTOR AXIAL LEAD	100UH K 2.3*3.4 TP	
		L253	0LA1000K119	INDUCTOR AXIAL LEAD	100UH K 2.3*3.4 TP	
		L254	0LA1000K119	INDUCTOR AXIAL LEAD	100UH K 2.3*3.4 TP	
		L401	125-022K	CORE	FERRITE 1UH	
		L402	150-159L	COIL	LINEARITY	14
		L402	150-224C	COIL	LINEARITY	20
		L402	150-224C	COIL	LINEARITY	21
		L501	0LA1000K119	INDUCTOR AXIAL LEAD	100UH K 2.3*3.4 TP	
		L801	150-235A	COIL	H-CHOKE (TLN-3006)	
		L802	150-679E	COIL	CHOKE 10UH(NAMYANG)	
		L803	150-679D	COIL	CHOKE 100UH(NAMYANG)	
		L804	125-123A	CORE	FERRITE BFD3565R2F	

S	AL	LOCA.NO	PART NO(GS)	DESCRIPTION	SPECIFICATION	REMARKS
		L851	150-982A	COIL	LINE FILTER,70TH SQE	
		L901	150-679D	COIL	CHOKE 100UH(NAMYANG)	21
		L901	150-679E	COIL	CHOKE 10UH(NAMYANG)	
		PA01	106-047B	PRE-AMP	SBX1620-72(SONY)	
		P901	381-100C	SOCKET	CPT PCS-625(MINI)	14
		P901	381-226D	SOCKET	CPT PCS628-01S/LESS BULK(NO5)	20
		P901	381-226D	SOCKET	CPT PCS628-01S/LESS BULK(NO5)	21
		Q01	0TR319809AA	TRANSISTOR	KTC3198-TP-Y (KTC1815)KEC	
		Q02	0TR319809AA	TRANSISTOR	KTC3198-TP-Y (KTC1815)KEC	
		Q03	0TR319809AA	TRANSISTOR	KTC3198-TP-Y (KTC1815)KEC	
		Q04	0TR319809AA	TRANSISTOR	KTC3198-TP-Y (KTC1815)KEC	
		Q110	0TR319809AA	TRANSISTOR	KTC3198-TP-Y (KTC1815)KEC	
		Q18	0TR319809AA	TRANSISTOR	KTC3198-TP-Y (KTC1815)KEC	
		Q19	0TR319809AA	TRANSISTOR	KTC3198-TP-Y (KTC1815)KEC	
		Q20	0TR102009AB	TRANSISTOR	KRC102M,TP(KRC1202),KEC	
		Q201	0TR319809AA	TRANSISTOR	KTC3198-TP-Y (KTC1815)KEC	
		Q21	0TR114009AA	TRANSISTOR	DTA114ES,TP,ROHM	
		Q211	0TR319809AA	TRANSISTOR	KTC3198-TP-Y (KTC1815)KEC	
		Q212	0TR126609AA	TRANSISTOR	KTA1266-TP-Y (KTA1015) KEC	
		Q214	0TR319809AA	TRANSISTOR	KTC3198-TP-Y (KTC1815)KEC	
		Q22	0TR114009AA	TRANSISTOR	DTA114ES,TP,ROHM	
		Q23	0TR114009AA	TRANSISTOR	DTA114ES,TP,ROHM	
		Q301	0TR319809AA	TRANSISTOR	KTC3198-TP-Y (KTC1815)KEC	
		Q401	0TR155500AA	TRANSISTOR	KTD 1555	
		Q402	0TR320509AB	TRANSISTOR	KTC3205-Y (KTC2236A) TP KEC	
		Q403	0TR102609AB	TRANSISTOR	KTC1026-GR TP(KTC2230A),KEC	
		Q501	0TR319809AA	TRANSISTOR	KTC3198-TP-Y (KTC1815)KEC	
		Q601	0TR319809AA	TRANSISTOR	KTC3198-TP-Y (KTC1815)KEC	
		Q801	0TR900000AA	TRANSISTOR	BUZ-90(SIEMENS) SIP MOS	
		Q901	0TR206800BA	TRANSISTOR	KTC2068,KEC	
		Q902	0TR206800BA	TRANSISTOR	KTC2068,KEC	
		Q903	0TR206800BA	TRANSISTOR	KTC2068,KEC	
		Q99	0TR320209AA	TRANSISTOR	KTC3202-TP-Y (KTC1959)KEC	
		RL801	141-018C	RELAY	DG48D1-0(M)	
		R01	0RD0102F609	R,CARBON FILM	10 1/6W 5	
		R02	0RD1002F609	R,CARBON FILM	10K 1/6W 5	
		R04	0RD1002F609	R,CARBON FILM	10K 1/6W 5	
		R05	0RD1501F609	R,CARBON FILM	1.5K 1/6W 5	14
		R05	0RD1801F609	R,CARBON FILM	1.8K 1/6W 5	21
		R05	0RD1801F609	R,CARBON FILM	1.8K 1/6W 5	20
		R06	0RD1301F609	R,CARBON FILM	1.3K 1/6W 5	
		R08	0RD4700F609	R,CARBON FILM	470 1/6W 5	
		R09	0RD4701F609	R,CARBON FILM	4.7K 1/6W 5	
		R10	0RD2702F609	R,CARBON FILM	27K 1/6W 5	
		R100	0RD0201H609	R,CARBON FILM	2.0 1/2W 5	
		R11	0RD6202F609	R,CARBON FILM	62K 1/6W 5	
		R12	0RD2201F609	R,CARBON FILM	2.2K 1/6W 5	21
		R12	0RD2201F609	R,CARBON FILM	2.2K 1/6W 5	20
		R12	0RD3001F609	R,CARBON FILM	3.0K 1/6W 5	14
		R121	0RD2403F609	R,CARBON FILM	240K 1/6W 5	

S	AL	LOCA.NO	PART NO(GS)	DESCRIPTION	SPECIFICATION	REMARKS
		R122	0RD2703F609	R,CARBON FILM	270K 1/6W 5	
		R123	0RD1000F609	R,CARBON FILM	100 1/6W 5	
		R124	0RD1001F609	R,CARBON FILM	1.0K 1/6W 5	
		R131	0RD6800F609	R,CARBON FILM	680 1/6W 5	
		R132	0RD4701F609	R,CARBON FILM	4.7K 1/6W 5	
		R133	0RD8200F609	R,CARBON FILM	820 1/6W 5	
		R14	0RD3300F609	R,CARBON FILM	330 1/6W 5	21
		R14	0RD3300F609	R,CARBON FILM	330 1/6W 5	20
		R14	0RD8200F609	R,CARBON FILM	820 1/6W 5	14
		R15	0RD1202F609	R,CARBON FILM	12K 1/6W 5	14
		R15	0RD6801F609	R,CARBON FILM	6.8K 1/6W 5	21
		R15	0RD6801F609	R,CARBON FILM	6.8K 1/6W 5	20
		R16	0RD9101F609	R,CARBON FILM	9.1K 1/6W 5	
		R17	0RD2201F609	R,CARBON FILM	2.2K 1/6W 5	
		R18	0RD2200F609	R,CARBON FILM	220 1/6W 5	
		R181	0RD2702F609	R,CARBON FILM	27K 1/6W 5	
		R182	0RD3302F609	R,CARBON FILM	33K 1/6W 5	
		R183	0RD1002F609	R,CARBON FILM	10K 1/6W 5	
		R184	0RD3302F609	R,CARBON FILM	33K 1/6W 5	
		R185	0RD6801F609	R,CARBON FILM	6.8K 1/6W 5	
		R189	0RD2702F609	R,CARBON FILM	27K 1/6W 5	
		R19	0RD6802F609	R,CARBON FILM	68K 1/6W 5	
		R20	0RD2701F609	R,CARBON FILM	2.7K 1/6W 5	14
		R20	0RD4701F609	R,CARBON FILM	4.7K 1/6W 5	21
		R20	0RD4701F609	R,CARBON FILM	4.7K 1/6W 5	20
		R201	0RD1001F609	R,CARBON FILM	1.0K 1/6W 5	
		R202	0RD6801F609	R,CARBON FILM	6.8K 1/6W 5	
		R203	0RD1001F609	R,CARBON FILM	1.0K 1/6W 5	
		R204	0RD0472F609	R,CARBON FILM	47 1/6W 5	
		R205	0RD8200F609	R,CARBON FILM	820 1/6W 5	
		R207	0RD8201F609	R,CARBON FILM	8.2K 1/6W 5	
		R208	0RD8201F609	R,CARBON FILM	8.2K 1/6W 5	
		R21	0RD3001F609	R,CARBON FILM	3.0K 1/6W 5	
		R211	0RD1000F609	R,CARBON FILM	100 1/6W 5	
		R22	0RD4701F609	R,CARBON FILM	4.7K 1/6W 5	20
		R22	0RD5601F609	R,CARBON FILM	5.6K 1/6W 5	21
		R22	0RD6801F609	R,CARBON FILM	6.8K 1/6W 5	14
		R23	0RD5601F609	R,CARBON FILM	5.6K 1/6W 5	
		R233	0RD1501F609	R,CARBON FILM	1.5K 1/6W 5	
		R234	0RD7500F609	R,CARBON FILM	750 1/6W 5	
		R24	0RD4701F609	R,CARBON FILM	4.7K 1/6W 5	
		R244	0RD4703F609	R,CARBON FILM	470K 1/6W 5	
		R247	0RD9100F609	R,CARBON FILM	910 1/6W 5	
		R25	0RD8200F609	R,CARBON FILM	820 1/6W 5	
		R251	0RD3901F609	R,CARBON FILM	3.9K 1/6W 5	
		R253	0RD0752F609	R,CARBON FILM	75 1/6W 5	
		R254	0RD1000F609	R,CARBON FILM	100 1/6W 5	
		R256	0RD0752F609	R,CARBON FILM	75 1/6W 5	
		R258	0RD0752F609	R,CARBON FILM	75 1/6W 5	
		R259	0RD2200F609	R,CARBON FILM	220 1/6W 5	

S	AL	LOCA.NO	PART NO(GS)	DESCRIPTION	SPECIFICATION	REMARKS
		R26	ORD1001F609	R,CARBON FILM	1.0K 1/6W 5	
		R261	ORD1002F609	R,CARBON FILM	10K 1/6W 5	
		R262	ORD2200F609	R,CARBON FILM	220 1/6W 5	14
		R262	ORD4700F609	R,CARBON FILM	470 1/6W 5	21
		R262	ORD4700F609	R,CARBON FILM	470 1/6W 5	20
		R263	ORD2200F609	R,CARBON FILM	220 1/6W 5	14
		R263	ORD4700F609	R,CARBON FILM	470 1/6W 5	21
		R263	ORD4700F609	R,CARBON FILM	470 1/6W 5	20
		R264	ORD2200F609	R,CARBON FILM	220 1/6W 5	14
		R264	ORD4700F609	R,CARBON FILM	470 1/6W 5	21
		R264	ORD4700F609	R,CARBON FILM	470 1/6W 5	20
		R27	ORD1000F609	R,CARBON FILM	100 1/6W 5	
		R271	ORD2202F609	R,CARBON FILM	22K 1/6W 5	
		R275	ORD2401F609	R,CARBON FILM	2.4K 1/6W 5	
		R279	ORD1201F609	R,CARBON FILM	1.2K 1/6W 5	
		R28	ORD4700F609	R,CARBON FILM	470 1/6W 5	
		R29	ORD1002F609	R,CARBON FILM	10K 1/6W 5	
		R30	ORD3900F609	R,CARBON FILM	390 1/6W 5	
		R301	ORD1004F609	R,CARBON FILM	1.0M 1/6W 5	
		R31	ORD1000F609	R,CARBON FILM	100 1/6W 5	
		R311	ORD6202F609	R,CARBON FILM	62K 1/6W 5	
		R312	ORD0561H609	R,CARBON FILM	5.6 1/2W 5	
		R313	ORD3601F609	R,CARBON FILM	3.6K 1/6W 5	
		R315	ORD1001H609	R,CARBON FILM	1.0K 1/2W 5	
		R316	ORD3900H609	R,CARBON FILM	390 1/2W 5	
		R317	ORD2202F609	R,CARBON FILM	22K 1/6W 5	
		R317	ORD2702F609	R,CARBON FILM	27K 1/6W 5	21
		R318	ORD2402F609	R,CARBON FILM	24K 1/6W 5	14
		R318	ORD2402F609	R,CARBON FILM	24K 1/6W 5	
		R32	ORD1002F609	R,CARBON FILM	10K 1/6W 5	
		R321	ORD1202F609	R,CARBON FILM	12K 1/6W 5	
		R322	ORD0221H609	R,CARBON FILM	2.2 1/2W 5	21
		R322	ORD0221H609	R,CARBON FILM	2.2 1/2W 5	20
		R322	ORN0221H609	RESISTOR FIX METAL FILM	2.2 1/2W 5 TA52	14
		R323	ORD2001F609	R,CARBON FILM	2.0K 1/6W 5	
		R324	ORD1002F609	R,CARBON FILM	10K 1/6W 5	
		R325	ORD1002F609	R,CARBON FILM	10K 1/6W 5	
		R326	ORD1201H609	R,CARBON FILM	1.2K 1/2W 5	
		R33	ORD1201F609	R,CARBON FILM	1.2K 1/6W 5	
		R34	ORD1201F609	R,CARBON FILM	1.2K 1/6W 5	
		R35	ORD1201F609	R,CARBON FILM	1.2K 1/6W 5	
		R36	ORD1201F609	R,CARBON FILM	1.2K 1/6W 5	
		R37	ORD1201F609	R,CARBON FILM	1.2K 1/6W 5	
		R38	ORD1201F609	R,CARBON FILM	1.2K 1/6W 5	
		R39	ORD4702F609	R,CARBON FILM	47K 1/6W 5	
		R40	ORD6800F609	R,CARBON FILM	680 1/6W 5	
		R401	ORD1000F609	R,CARBON FILM	100 1/6W 5	
		R402	ORD1002F609	R,CARBON FILM	10K 1/6W 5	
		R403	ORD1000F609	R,CARBON FILM	100 1/6W 5	
		R404	ORD2702F609	R,CARBON FILM	27K 1/6W 5	

S	AL	LOCA.NO	PART NO(GS)	DESCRIPTION	SPECIFICATION	REMARKS
		R405	ORD8203F609	R,CARBON FILM	820K 1/6W 5	
		R406	ORD2200F609	R,CARBON FILM	220 1/6W 5	
		R407	ORD1501F609	R,CARBON FILM	1.5K 1/6W 5	
		R408	ORD1502F609	R,CARBON FILM	15K 1/6W 5	
		R409	ORD2200F609	R,CARBON FILM	220 1/6W 5	
		R41	ORD1000F609	R,CARBON FILM	100 1/6W 5	
		R42	ORD1000F609	R,CARBON FILM	100 1/6W 5	
		R422	ORD0472F609	R,CARBON FILM	47 1/6W 5	
		R423	ORD3301H609	R,CARBON FILM	3.3K 1/2W 5	
		R424	ORS1201K607	RESISTOR,FIX METAL FILM OXIDE	1.20K 2W 5% TA62	
		R428	180-830B	RESISTOR	RSR 5W 3.3K OHM 5% PD	
		R43	ORD1000F609	R,CARBON FILM	100 1/6W 5	
		R431	ORD2701H609	R,CARBON FILM	2.7K 1/2W 5	
		R432	ORS0221K607	RESISTOR,FIX METAL FILM OXIDE	2.20 2W 5% TA62	
		R433	ORS0221K607	RESISTOR,FIX METAL FILM OXIDE	2.20 2W 5% TA62	
		R434	ORD1201H609	R,CARBON FILM	1.2K 1/2W 5	
		R435	ORD0392H609	R,CARBON FILM	39 1/2W 5	
		R437	ORD5602H609	RESISTOR,FIXED CARBON FILM	56K 1/2W 5 M15	21
		R437	ORD5602H609	RESISTOR,FIXED CARBON FILM	56K 1/2W 5 M15	20
		R437	ORD6802H609	RESISTOR,FIXED CARBON FILM	68K 1/2W 5 TA52	14
		R438	ORD6802H609	RESISTOR,FIXED CARBON FILM	68K 1/2W 5 TA52	21
		R438	ORD6802H609	RESISTOR,FIXED CARBON FILM	68K 1/2W 5 TA52	20
		R438	ORD8202H609	R,CARBON FILM	82K 1/2W 5	14
		R439	ORD1001F609	R,CARBON FILM	1.0K 1/6W 5	
		R44	ORD6800F609	R,CARBON FILM	680 1/6W 5	
		R440	ORD2403H609	RESISTOR,FIXED CARBON FILM	240K 1/2W 5 M15	
		R441	ORD1000H609	R,CARBON FILM	100 1/2W 5	
		R45	ORD1001F609	R,CARBON FILM	1.0K 1/6W 5	
		R46	ORD1002F609	R,CARBON FILM	10K 1/6W 5	
		R47	ORD1002F609	R,CARBON FILM	10K 1/6W 5	
		R48	ORD1002F609	R,CARBON FILM	10K 1/6W 5	
		R49	ORD4701F609	R,CARBON FILM	4.7K 1/6W 5	
		R503	ORD2701F609	R,CARBON FILM	2.7K 1/6W 5	
		R504	ORD4700F609	R,CARBON FILM	470 1/6W 5	
		R505	ORD4700F609	R,CARBON FILM	470 1/6W 5	
		R506	ORD4700F609	R,CARBON FILM	470 1/6W 5	
		R507	ORD1201F609	R,CARBON FILM	1.2K 1/6W 5	
		R508	ORD1002F609	R,CARBON FILM	10K 1/6W 5	
		R509	ORD1002F609	R,CARBON FILM	10K 1/6W 5	
		R51	ORD1003F609	R,CARBON FILM	100K 1/6W 5	
		R511	ORD1003F609	R,CARBON FILM	100K 1/6W 5	
		R512	ORD2200F609	R,CARBON FILM	220 1/6W 5	
		R519	ORD4702F609	R,CARBON FILM	47K 1/6W 5	
		R52	ORD1202F609	R,CARBON FILM	12K 1/6W 5	
		R53	ORD5602F609	R,CARBON FILM	56K 1/6W 5	
		R530	ORD4701F609	R,CARBON FILM	4.7K 1/6W 5	
		R531	ORD6801F609	R,CARBON FILM	6.8K 1/6W 5	
		R532	ORD6801F609	R,CARBON FILM	6.8K 1/6W 5	
		R54	ORD3902F609	R,CARBON FILM	39K 1/6W 5	
		R55	ORD7502F609	R,CARBON FILM	75K 1/6W 5	

S	AL	LOCA.NO	PART NO(GS)	DESCRIPTION	SPECIFICATION	REMARKS
		R56	ORD2002F609	R.CARBON FILM	20K 1/6W 5	
		R57	ORD4701F609	R.CARBON FILM	4.7K 1/6W 5	
		R58	ORD4701F609	R.CARBON FILM	4.7K 1/6W 5	
		R59	ORD1000F609	R.CARBON FILM	100 1/6W 5	
		R60	ORD1000F609	R.CARBON FILM	100 1/6W 5	
		R601	ORD1201F609	R.CARBON FILM	1.2K 1/6W 5	
		R602	ORD1002F609	R.CARBON FILM	10K 1/6W 5	
		R603	ORD1201F609	R.CARBON FILM	1.2K 1/6W 5	
		R605	ORD1003F609	R.CARBON FILM	100K 1/6W 5	
		R606	ORD8201F609	R.CARBON FILM	8.2K 1/6W 5	
		R607	ORD1003F609	R.CARBON FILM	100K 1/6W 5	
		R608	ORD8202F609	R.CARBON FILM	82K 1/6W 5	
		R609	ORD1003F609	R.CARBON FILM	100K 1/6W 5	
		R611	ORD0101H609	R.CARBON FILM	1.0 1/2W 5	
		R612	ORD1002F609	R.CARBON FILM	10K 1/6W 5	
		R613	ORD1002F609	R.CARBON FILM	10K 1/6W 5	
		R614	ORD2701F609	R.CARBON FILM	2.7K 1/6W 5	
		R62	ORD1000F609	R.CARBON FILM	100 1/6W 5	
		R63	ORD5601F609	R.CARBON FILM	5.6K 1/6W 5	
		R64	ORD1002F609	R.CARBON FILM	10K 1/6W 5	
		R65	ORD1002F609	R.CARBON FILM	10K 1/6W 5	
		R66	ORD2201F609	R.CARBON FILM	2.2K 1/6W 5	
		R67	ORD0822F609	R.CARBON FILM	82 1/6W 5	
		R68	ORD1201F609	R.CARBON FILM	1.2K 1/6W 5	
		R70	ORD1001F609	R.CARBON FILM	1.0K 1/6W 5	
		R801	180-142F	R.CEMENT RWR	5W 2.2J	
		R802	ORD6803H609	R.CARBON FILM	680K 1/2W 5	
		R804	ORS4702K607	RESISTOR.FIX METAL FILM OXIDE	47K 2W 5% TA62	
		R805	ORD2003H609	R.CARBON FILM	200K 1/2W 5	
		R806	ORD1203H609	R.CARBON FILM	120K 1/2W 5	
		R807	ORD5101F609	R.CARBON FILM	5.1K 1/6W 5	
		R808	ORD0472F609	R.CARBON FILM	47 1/6W 5	
		R809	ORD0101F609	R.CARBON FILM	1.0 1/6W 5	
		R810	ORS4702K607	RESISTOR.FIX METAL FILM OXIDE	47K 2W 5% TA62	
		R811	ORS2702L667	RESISTOR.FIX METAL FILM OXIDE	27K 3W 5 SF30	
		R812	ORD0472H609	R.CARBON FILM	47 1/2W 5	
		R813	ORD5101F609	R.CARBON FILM	5.1K 1/6W 5	
		R814	ORD2200F609	R.CARBON FILM	220 1/6W 5	
		R817	ORD1202F609	R.CARBON FILM	12K 1/6W 5	
		R818	ORS0102J607	R.METAL FILM OXIDE	10 1W 5%	
		R819	ORD1303H609	R.CARBON FILM	130K 1/2W 5	
		R820	ORD2003H609	R.CARBON FILM	200K 1/2W 5	
		R821	ORD1503H609	R.CARBON FILM	150K 1/2W 5	
		R822	ORD1201F609	R.CARBON FILM	1.2K 1/6W 5	21
		R822	ORD7500F609	R.CARBON FILM	750 1/6W 5	
		R84	ORD1000F609	R.CARBON FILM	100 1/6W 5	
		R85	ORD1000F609	R.CARBON FILM	100 1/6W 5	
		R851	180-783F	RESISTOR.RC	4700K 2W K	
		R86	ORD1000F609	R.CARBON FILM	100 1/6W 5	
		R87	ORD1000F609	R.CARBON FILM	100 1/6W 5	

S	AL	LOCA.NO	PART NO(GS)	DESCRIPTION	SPECIFICATION	REMARKS
		R88	ORD1000F609	R.CARBON FILM	100 1/6W 5	
		R89	ORD1000F609	R.CARBON FILM	100 1/6W 5	
		R901	ORD1000F609	R.CARBON FILM	100 1/6W 5	
		R902	ORD1000F609	R.CARBON FILM	100 1/6W 5	
		R903	ORD2701H609	R.CARBON FILM	2.7K 1/2W 5	
		R904	ORS1002K607	R.METAL FILM OXIDE	10K 2W 5%	
		R905	ORS1002K607	R.METAL FILM OXIDE	10K 2W 5%	
		R906	ORS1002K607	R.METAL FILM OXIDE	10K 2W 5%	
		R907	ORD2701H609	R.CARBON FILM	2.7K 1/2W 5	
		R909	ORD2701H609	R.CARBON FILM	2.7K 1/2W 5	
		R910	ORD1201F609	R.CARBON FILM	1.2K 1/6W 5	14
		R910	ORD1801F609	R.CARBON FILM	1.8K 1/6W 5	21
		R910	ORD1801F609	R.CARBON FILM	1.8K 1/6W 5	20
		R911	ORD1801F609	R.CARBON FILM	1.8K 1/6W 5	
		R912	ORD1201F609	R.CARBON FILM	1.2K 1/6W 5	14
		R912	ORD1801F609	R.CARBON FILM	1.8K 1/6W 5	21
		R912	ORD1801F609	R.CARBON FILM	1.8K 1/6W 5	20
		R913	ORD3300F609	R.CARBON FILM	330 1/6W 5	
		R914	ORD3900F609	R.CARBON FILM	390 1/6W 5	
		R915	ORD3300F609	R.CARBON FILM	330 1/6W 5	
		R916	ORD1800F609	R.CARBON FILM	180 1/6W 5	
		R917	ORD1000F609	R.CARBON FILM	100 1/6W 5	
		R921	ORD1000F609	R.CARBON FILM	100 1/6W 5	
		R922	ORD1000F609	R.CARBON FILM	100 1/6W 5	
		R923	ORD1000F609	R.CARBON FILM	100 1/6W 5	
		R924	ORD1000F609	R.CARBON FILM	100 1/6W 5	
		R93	ORD2701F609	R.CARBON FILM	2.7K 1/6W 5	
		R94	ORD2201F609	R.CARBON FILM	2.2K 1/6W 5	
		R95	ORD1801F609	R.CARBON FILM	1.8K 1/6W 5	
		R96	ORD1001F609	R.CARBON FILM	1.0K 1/6W 5	
		R97	ORD2202F609	R.CARBON FILM	22K 1/6W 5	
		R98	ORD2201F609	R.CARBON FILM	2.2K 1/6W 5	
		R99	ORD7501F609	R.CARBON FILM	7.5K 1/6W 5	
		SG901	165-004A	SPARK GAP	A620PT 152F-L3N/S-23	
		SW01	140-315B	SWITCH	TACT 4LEAD(TA),SKHVLJ,ALPS	
		SW02	140-315B	SWITCH	TACT 4LEAD(TA),SKHVLJ,ALPS	
		SW03	140-315B	SWITCH	TACT 4LEAD(TA),SKHVLJ,ALPS	
		SW04	140-315B	SWITCH	TACT 4LEAD(TA),SKHVLJ,ALPS	
		SW05	140-315B	SWITCH	TACT 4LEAD(TA),SKHVLJ,ALPS	
		SW06	140-315B	SWITCH	TACT 4LEAD(TA),SKHVLJ,ALPS	
		SW301	140-111A	SWITCH	SVC P12T21	
		SW801	140-278C	SWITCH	MAIN,ME5C(TV-5)	
		TH801	163-012C	THERMISTOR	J502P54E180M220	
		T181	113-238C	TUNER	TUKE4C07BF(38.9MHZ HYPER)	
		T401	154-064P	FBT	FCB2-14SP3	14
		T401	154-106C	FBT	FCR1-19SP3	20
		T401	154-194D	FBT	FCJ*194D-21SP4	21
		T402	151-386A	TRANSFORMER	H.DRIVE 19Y4BY	
		T801	151-485A	TRANSFORMER	SMPS TDA4605-25 PC-31A NARROW	
		VL201	150-327M	COIL	VIF (PC04X)	

S	AL	LOCA.NO	PART NO(GS)	DESCRIPTION	SPECIFICATION	REMARKS
		VR101	180-452H	RESISTOR	RH0638C14R B103 HORIZONTAL(TA)	
		VR301	180-452E	RESISTOR	RH0638CJ3R B222 HORIZONTAL(TA)	
		VR302	180-452A	RESISTOR	RH0638CJ2R B221 HORIZONTAL(TA)	
		VR401	180-452H	RESISTOR	RH0638C14R B103 HORIZONTAL(TA)	
		VR801	180-451D	RESISTOR	EVN-DJAA03 B102 HORIZONTAL<TA>	
		VR901	180-451G	R.VARIABLE	EVN-DJAA03 B502 HORIZONTAL<TA>	
		VR902	180-451G	R.VARIABLE	EVN-DJAA03 B502 HORIZONTAL<TA>	
		VR903	180-451G	R.VARIABLE	EVN-DJAA03 B502 HORIZONTAL<TA>	
		VR904	180-451C	R.VARIABLE	EVN-DJAA03 B501 HORIZONTAL<TA>	
		VR905	180-451C	R.VARIABLE	EVN-DJAA03 B501 HORIZONTAL<TA>	
		X01	166-235A	FILTER	CST 4.00MGW-TF01	
		X501	156-006A	OSCILLATOR	X-TAL 4.43MHZ (18U)	
		ZD01	0DZ510009AB	DIODE ZENER	MTZ5.1B,TP(52MM),ROHM	
		ZD04	0DZ560009AA	DIODE ZENER	MTZ5.6B,TP(52MM),ROHM	
		ZD05	0DZ560009AA	DIODE ZENER	MTZ5.6B,TP(52MM),ROHM	
		ZD06	0DZ750009AA	DIODE ZENER	MTZ7.5B,TP(52MM),ROHM	
		ZD07	0DZ750009AA	DIODE ZENER	MTZ7.5B,TP(52MM),ROHM	
		ZD08	0DZ750009AA	DIODE ZENER	MTZ7.5B,TP(52MM),ROHM	
		ZD401	0DZ330009BA	DIODE ZENER	HZT33	
		ZD402	0DZ910009BA	DIODE ZENER	MTZ9.1B,TP(52MM),ROHM	
		ZD403	0DZ910009BA	DIODE ZENER	MTZ9.1B,TP(52MM),ROHM	
		ZD419	0DZ910009BA	DIODE ZENER	MTZ9.1B,TP(52MM),ROHM	
		ZD501	0DZ510009AB	DIODE ZENER	MTZ5.1B,TP(52MM),ROHM	
		Z101	166-250B	FILTER	SAW FILTER G1966M	
		Z201	166-031L	FILTER	TPS 5.5MB-TF21(TA)	
		Z202	166-031N	FILTER	TPS 6.5MB-TF21(TA)	
		Z203	166-002H	FILTER	SFE5.5MB-TF21 (TA)	
				*** END OF DATA ***		

EYELET AUTO INSERT POINT TOTAL : 9 EA C80512EA) T80114EA:PIN 1.7.8.14) FBT13EA : PIN1.4.10)
GLIPPER AUTO INSERT POINT TOTAL : 8 EA C42113EA) L402(1) L801(1)

R-BIAS B-BIAS G-BIAS

R-DRIVE B-DRIVE

SOUND OUT

RGB SW

u-COM

SOUND SW

POWER I

SCART & TXT

TELETEXT BOARD

VER

HORIZON

POWER II

SHEET AREA

AC INPUT

SW801 MAIN SW

P802 D-COIL

H-ADJ

V-ADJ

H-SHIFT

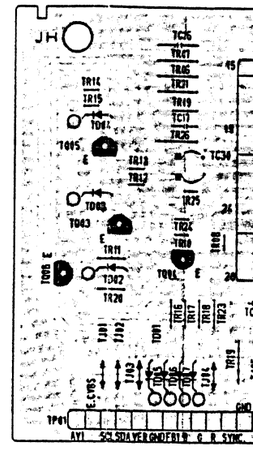
ADC ADJ

JH

1 2 3 4 5

A B C D E F G

TXT P.C.Board (Co



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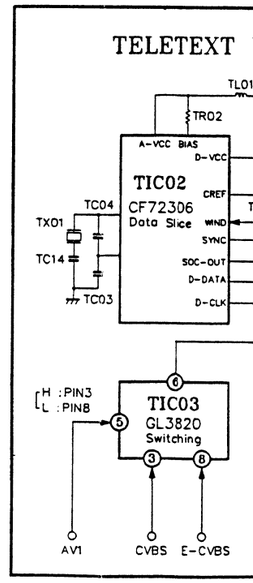
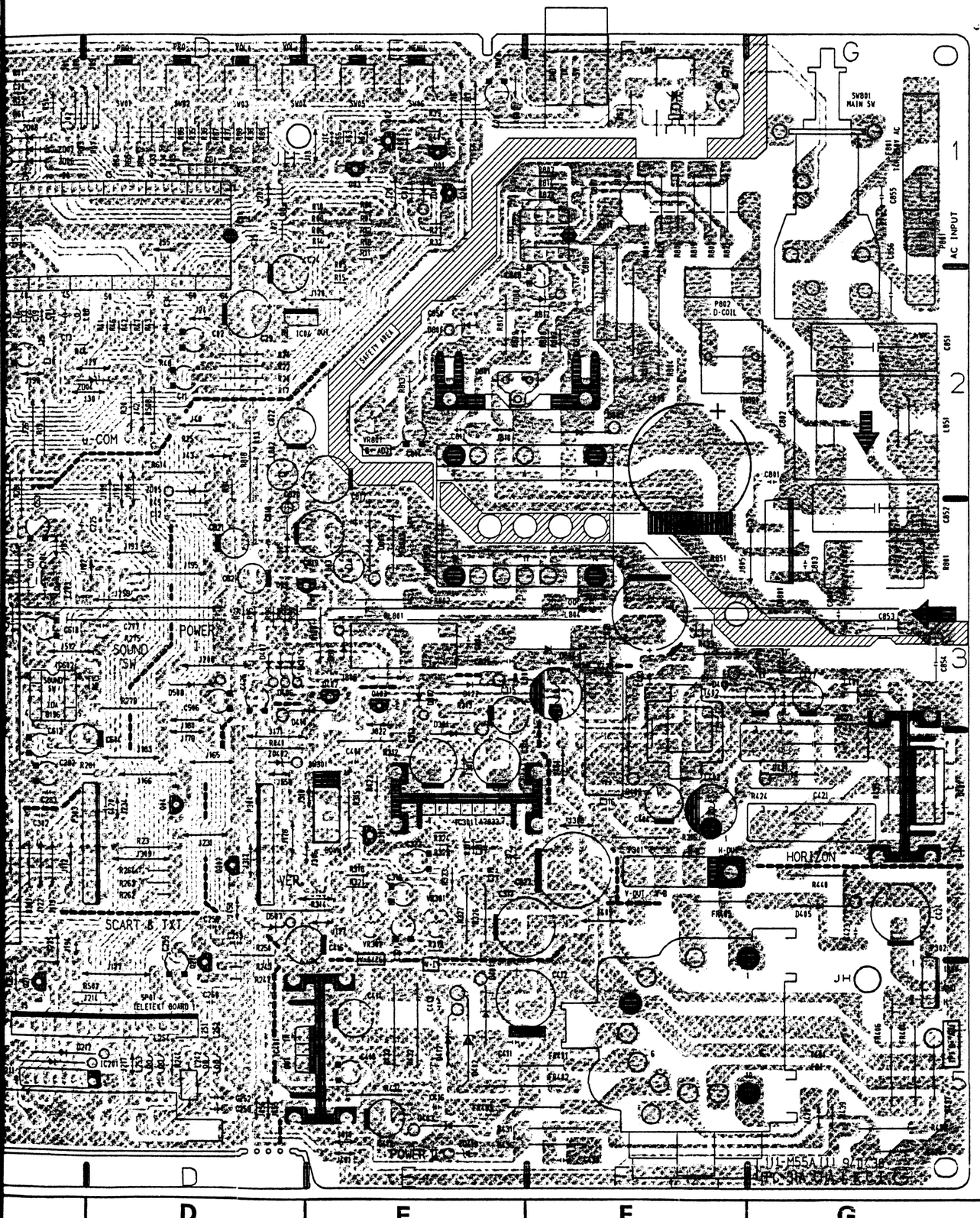
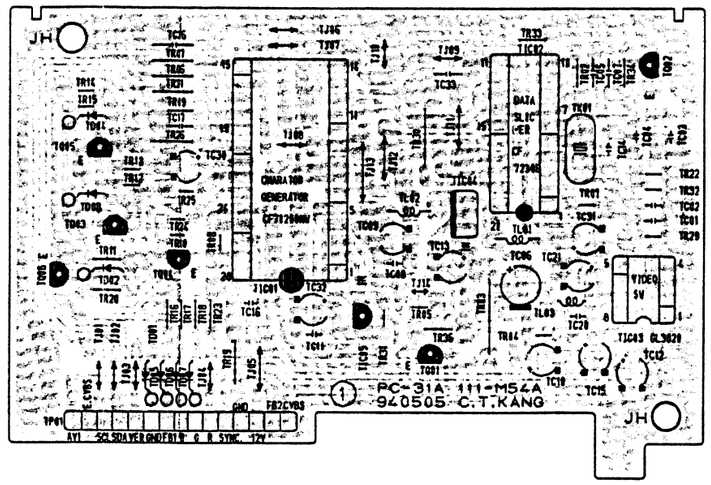
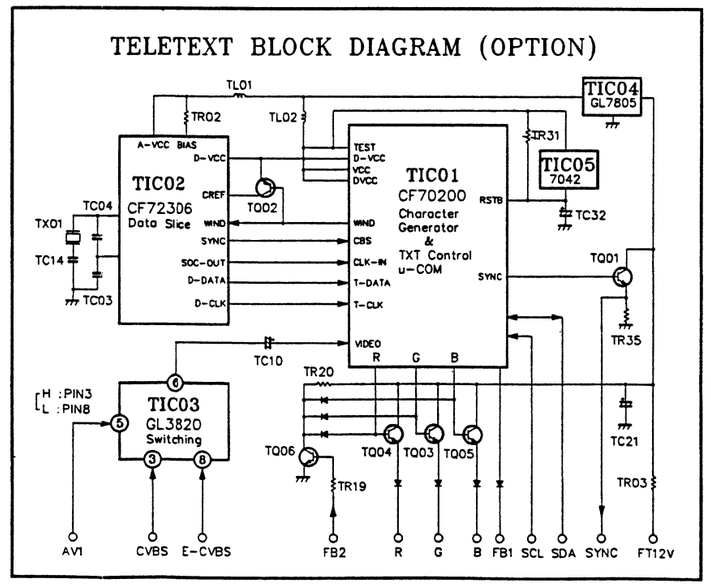




TXT P.C.Board (Component Side)-OPTION





■ Alignment procedures

1. It is safe to adjust after using insulating transformer the power supply line and chassis input to prevent th electric shock and protect the instrument.
2. Never disconnect leads while the TV receiver is on.
3. Don't short any portion of circuits while power is on.
4. The adjustment must be done by the correct applian But this is changeable in view of productivity.
5. Unless other-wise noted, set the line voltage to 230 50/60hz.

■ Test Equipment required

1. VIF sweep generator
2. Color bar/cross-hatch pattern generator
3. DC power supply (24V) X 2
4. Digital multi-meter
5. Oscilloscope

● Regulated B+ adjustment

Test Point : TP 1

Adjust : VR 801

1) Turn the TV set to receive a broadcast signal.
2) Set color, bright, contrast to max. position.
3) Connect DC voltmeter to the TP 1 (R437).
4) Adjust VR801 for 112V $^{+0.3}_{-0.1}$ as to smaller model than 2
   118V $^{+0.3}_{-0.1}$ as to 21 inch.

NOTE: This adjustment should be performed after up for 10 minutes.

● VCO (Voltage Controlled Oscillator)

1. Connect the measuring equipment to the TV as show

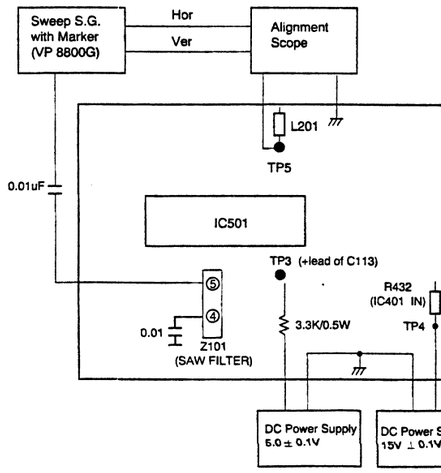
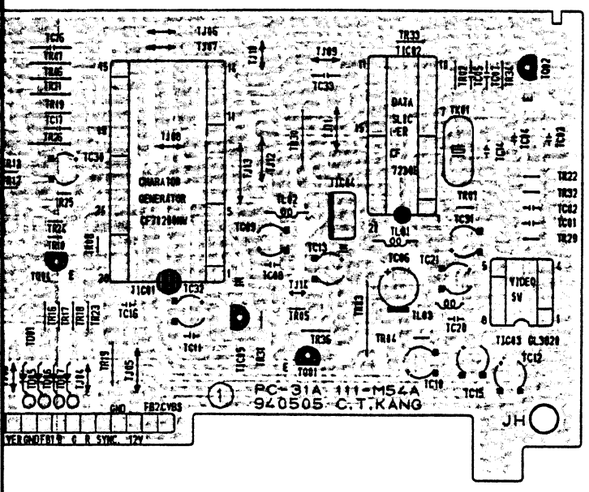
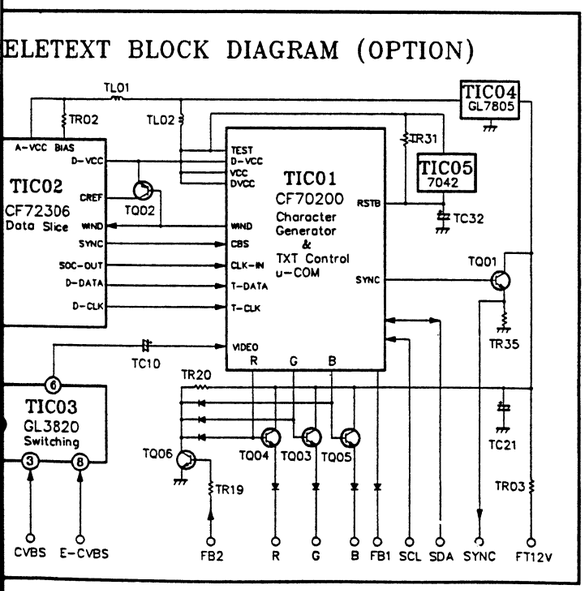


Fig. 1 Connection Diagram of equipment

Board (Component Side)-OPTION





■ Alignment procedures

1. It is safe to adjust after using insulating transformer between the power supply line and chassis input to prevent the risk of electric shock and protect the instrument.
2. Never disconnect leads while the TV receiver is on.
3. Don't short any portion of circuits while power is on.
4. The adjustment must be done by the correct appliances. But this is changeable in view of productivity.
5. Unless other-wise noted, set the line voltage to 230V±20%, 50/60hz.

■ Test Equipment required

1. VIF sweep generator
2. Color bar/cross-hatch pattern generator
3. DC power supply (24V) X 2
4. Digital multi-meter
5. Oscilloscope

● Regulated B+ adjustment

Test Point : TP 1
Adjust : VR 801

1) Turn the TV set to receive a broadcast signal.
2) Set color, bright, contrast to max. position.
3) Connect DC voltmeter to the TP 1 (R437).
4) Adjust VR801 for 112V $^{+0.3}_{-0.1}$ as to smaller model than 21 inch,
   118V $^{+0.3}_{-0.1}$ as to 21 inch.

NOTE: This adjustment should be performed after warming up for 10 minutes.

● VCO (Voltage Controlled Oscillator)

1. Connect the measuring equipment to the TV as shown Fig. 1

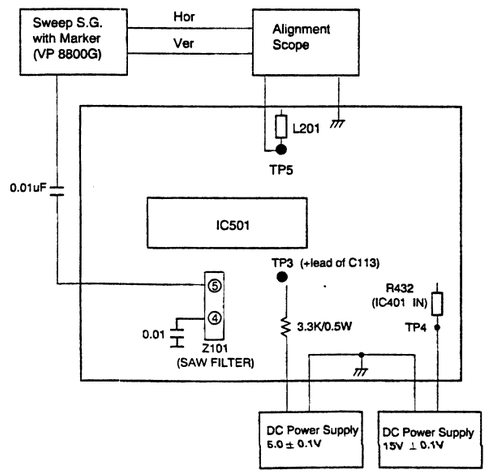


Fig. 1 Connection Diagram of equipment

2. Adjust VL 201 so that the level of Picture Carrier(Pc) maker point may be the lowest position as shown Fig 2.

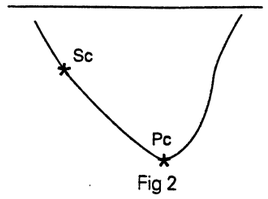


Fig 2

NOTE: 1) In case of the model of PAL/SECAM-B/G, D/K system, Pc frequency is 38Mhz.
In case of PAL-I, 39.5Mhz.

2) When performing this adjustment, if there are 2 adjusted points in VL201, select the lower core position.

● RF AGC adjustment

Test point : TP 2 (J117) or Observing Display
Adjust : VR 101

The RF AGC control (VR 101) was aligned at the time of manufacture for optimum performance over a wide range conditions. Readjust of VR 101 should not be necessary unless unusual local conditions exist, such as;

1) Channel interference in a CATV system.

2) Picture bending and/or color beats, which are unusually due to excessive RF signal input when the receiver is too close to a transmitting tower or when the receiver is connected to an antenna distribution system where the RF signal has been amplified.

   In this case, the input signal should be attenuated (with a pad or filter) to a satisfactory level.

3) Picture noise caused by "broadcast noise" or weak signal.
   If the broadcast is "clean" and the RF signal is at least 1mV (60dBu), the picture will be noise free in any area.

Adjusting the VR 101 (RF AGC) control to one end of rotation will usually cause a relatively poor signal to noise ratio;
Adjusting to the other end of rotation will usually cause a degradation of overload capabilities resulting in color beats or adjacent channel reference.
For best results, adjust the VR 101 control while performing on all other local channels, or the voltage at TP2 will be as below Table.

SYSTEM	B/G	B/G	I	B/H	D/K
Voltage	5.8±0.1	6.0±0.1	5.5±0.1	5.8±0.1	5.8±0.1
Tuner P/N	113-232B	113-232C	113-232E	113-232B	113-232D

● Horizontal center adjustment

Test Point : Observing Display
Adjust : VR 401

1) Tune the TV set to receive a broadcast signal.
2) Adjust the H-shift control (VR 401) for obtaining geometric center of valuable display horizontally.

● Vertical size, linearity, center adjustment

Test Point : Observe Display
Adjust : VR 302 (Vertical size) VR 301 (Vertical linearity) SW 301 (Vertical center)

1) Tune the TV set to receive digital test pattern.
2) Reset color, bright to 50% and contrast 75%.
3) Adjust the vertical size control (VR 302) for approximately 1/8 inch overscan at top and bottom of display.
4) Adjust the vertical linearity control (VR 301) to obtain which the upper half circle of the pattern is the same vertical length as the lower half circle.
5) Adjust the vertical center control (SW 301) for obtaining geometric center of valuable display vertically.

● Focus adjustment

Test Point : Observe Display
Adjust : Focus control of FBT

1) Set color to minimum, bright and contrast to maximum.
2) Tune the TV set to an inactive channel station (snow condition).
3) Adjust the focus control for best overall focus.

● Screen & white balance (color temperature) adjustment

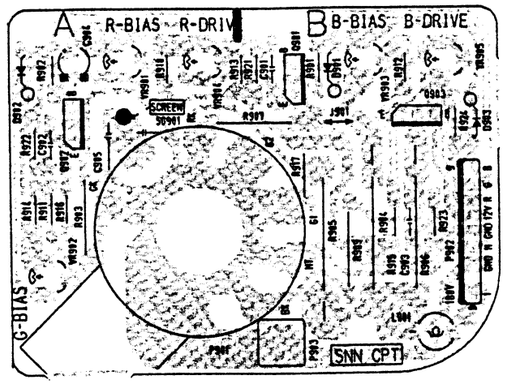
NOTE: The color bias controls (VR901, VR902, VR903) affect the low light(dark) area of the picture while the color drive controls (VR904, VR905) affect the high light (white) areas.

1) Tune the TV to a local TV channel and set the color, bright, control to minimum and contrast to maximum.
2) Adjust screen VR of FBT that 100% black area of the gray scale is the same brightness as 80% black area.
3) By using color analyzer (white balance checker), adjust X position equals to 281±8 and Y position equals to 288±8, it means color temperature is 10000° K at low light (6ft · L), at high light (over 45ft · L).

Component Locaton Guide

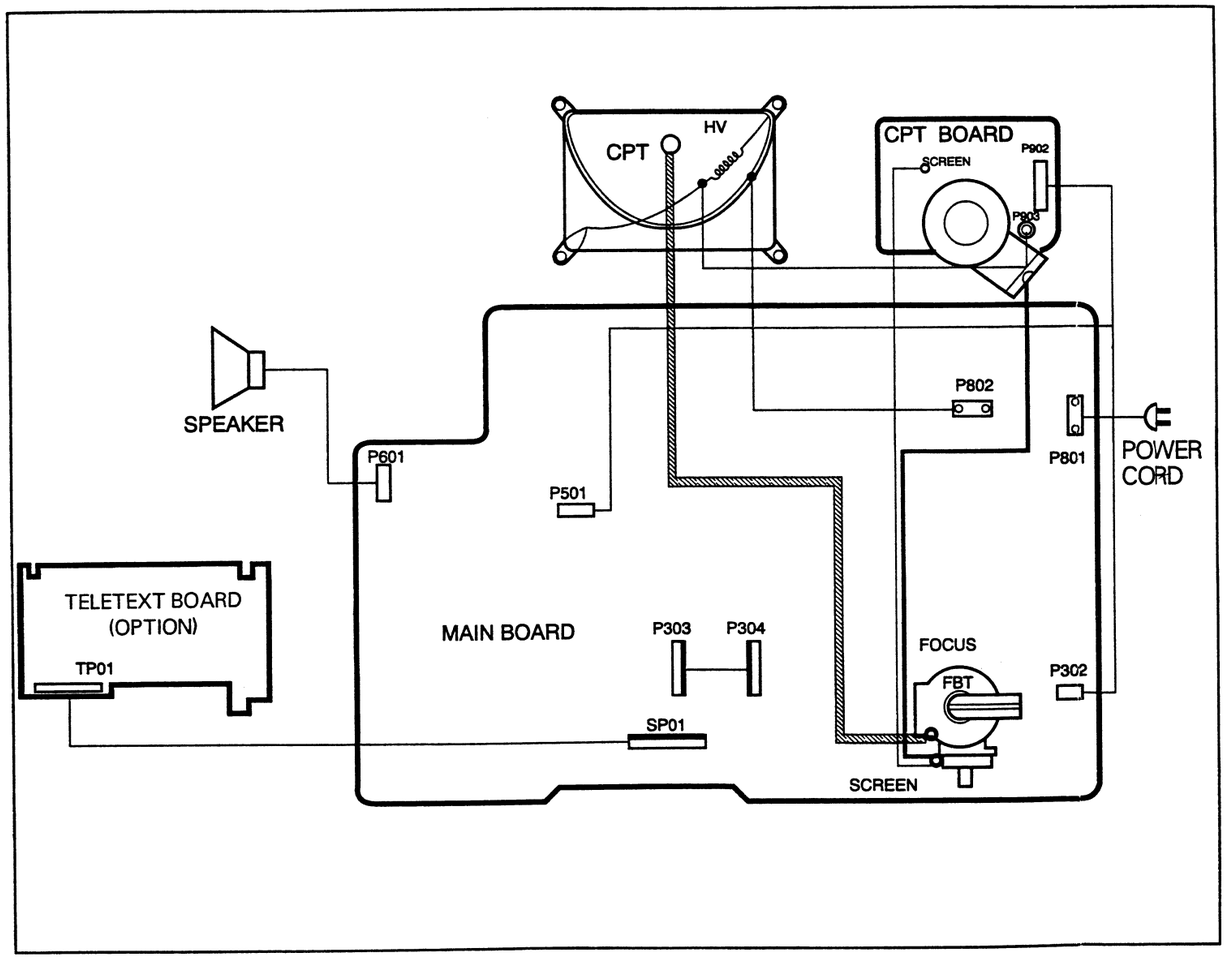
C01	C2	C411	E5	C820	E2	L101	B4	R27	E1	R253	C5	R803	F2
C02	D2	C412	F5	C821	D3	L181	B5	R28	C3	R254	C5	R804	F2
C03	E1	C413	E5	C822	D2	L182	B5	R29	C1	R256	C5	R805	F1
C08	B3	C414	E5	C824	E3	L201	C3	R30	D2	R258	C5	R806	F1
C10	C1	C415	E4	C825	E3	L202	B3	R31	C1	R259	C3	R807	F1
C11	D2	C416	E5	C827	F4	L203	C3	R32	E1	R261	C5	R810	F2
C12	D3	C417	E5	C828	F3	L204	C3	R33	D1	R262	D4	R811	F1
C13	C2	C418	E5	C850	E2	L240	C5	R34	D1	R263	D4	R812	E2
C16	C1	C420	D4	C853	G3	L242	D5	R35	D1	R264	D4	R813	E2
C17	C1	C421	G4	C854	G3	L251	D5	R36	D1	R271	C3	R814	F1
C18	B2	C422	G4	C855	G1	L252	D5	R37	D1	R275	D3	R817	F2
C19	C2	C423	G4	C856	G2	L253	D5	R38	D1	R279	D3	R818	D3
C20	C1	C424	G4	C901	A1	L254	D5	R39	E1	R281	C4	R819	F1
C21	A5	C425	G5	C902	B1	L301	F4	R40	E1	R301	C4	R820	F1
C22	A5	C426	D3	C903	A2	L401	G3	R41	D2	R311	E4	R821	F1
C23	C3	C427	G3	C904	A1	L402	F4	R42	D2	R312	E4	R822	E1
C24	D2	C430	F5	C905	A1	L501	C3	R43	D2	R313	E3	R851	F3
C25	D2	C431	B5	CD1	D1	L801	F3	R44	C2	R314	D4	R901	A1
C27	F1	C432	B5	D09	A5	L802	D2	R45	D3	R315	E4	R902	B1
C28	E1	C433	B4	D181	B5	L803	E3	R46	D2	R316	F4	R903	B1
C29	D2	C434	C4	D211	D5	L804	F3	R47	D2	R317	E4	R904	A1
C30	C2	C435	B4	D212	D5	L851	G2	R48	D2	R318	E4	R905	B1
C31	C1	C436	C4	D301	E4	L901	B1	R49	E1	R321	E4	R906	B1
C32	A2	C437	B5	D302	E3	LD01	F1	R50	C1	R322	E4	R907	A1
C33	C2	C501	B3	D401	E5	P304	D4	R51	A4	R323	E4	R909	A2
C34	D2	C502	B3	D402	E5	P501	B2	R52	A5	R324	E4	R910	A1
C59	C1	C503	B3	D403	E5	P601	A2	R53	A5	R325	E4	R911	B1
C62	C2	C504	B3	D404	A5	P801	G2	R54	A5	R326	E4	R912	B1
C81	C2	C505	B3	D405	G4	P802	F2	R55	C1	R401	B5	R913	A1
C82	D3	C506	D3	D406	D3	P901	B1	R56	B2	R402	B5	R914	B1
C111	B4	C507	B3	D407	D3	P902	B1	R57	C1	R403	B4	R915	A1
C112	C4	C508	A4	D408	F3	P903	B1	R58	C1	R406	B5	R916	B1
C113	C4	C511	A4	D409	F4	PA01	F1	R59	C1	R407	B5	R917	B1
C114	C4	C514	B4	D410	D3	Q01	E1	R60	C1	R409	C4	R921	A1
C181	A4	C515	B4	D411	D3	Q02	E1	R61	C2	R410	B5	R922	B1
C182	A4	C516	A4	D412	E5	Q03	E1	R62	E1	R422	E4	R923	A1
C183	A5	C517	A4	D421	G4	Q04	D4	R63	E1	R423	F3	R924	A2
C184	A5	C518	A4	D422	E3	Q18	A4	R64	D1	R424	F4	RL801	E3
C185	A5	C521	A4	D507	D4	Q19	C1	R65	D1	R428	F4	SG901	A1
C186	A5	C522	A3	D508	D3	Q20	E1	R66	E1	R431	F5	SP01	C5
C187	A5	C524	B5	D601	A2	Q21	A5	R67	F1	R432	E5	SW01	D1
C188	A5	C525	A3	D602	B2	Q22	A5	R68	E1	R433	E5	SW02	D1
C189	A4	C526	A3	D801	E2	Q23	A5	R70	C2	R434	E5	SW03	D1
C202	C3	C527	C4	D802	F2	Q99	E3	R84	D1	R435	G4	SW04	D1
C203	C3	C528	C4	D803	F2	Q110	B4	R85	D1	R436	E5	SW05	E1
C212	C3	C531	C3	D804	E3	Q201	C3	R86	D1	R437	G5	SW06	E1
C223	C3	C532	C2	D805	D3	Q211	C5	R87	D1	R438	G5	SW301	E4
C224	B3	C533	C2	D806	E3	Q212	C5	R88	D1	R439	G5	SW801	G1
C225	C3	C534	C2	D807	E3	Q214	D5	R89	D1	R440	G4	T181	B4
C226	C3	C535	B2	D901	A1	Q301	E4	R93	D3	R441	D4	T401	F5
C227	B3	C536	B2	D902	B1	Q302	D4	R94	D3	R503	C2	T402	F4
C228	B3	C538	B2	D903	A1	Q401	G4	R95	D3	R504	B3	T801	E3
C231	B3	C539	C2	DB801	G3	Q402	E3	R96	D3	R505	B3	TH801	F2
C232	B3	C550	A3	F801	G1	Q403	E3	R97	D3	R506	B3	VL201	C3
C252	D5	C551	A3	F802	G1	Q501	C2	R98	D3	R507	C5	VR101	B5
C253	D4	C601	C4	FR401	F5	Q601	A3	R99	D3	R508	D2	VR301	E4
C255	D5	C602	A3	FR402	E5	Q801	E2	R100	E3	R509	B3	VR302	E4
C256	D4	C603	A2	FR403	F5	Q901	A1	R123	C5	R510	B2	VR401	B5
C260	D5	C604	A2	FR404	G5	Q902	B1	R124	C5	R511	B4	VR801	E2
C277	D3	C605	B2	FR405	F4	Q903	A1	R131	B5	R512	A3	VR901	A1
C281	C3	C606	A2	FR406	G5	R01	C1	R132	B5	R513	B2	VR902	B1
C282	C4	C607	A3	FR601	C1	R02	B3	R133	C4	R514	B2	VR903	B1
C283	C4	C608	B2	FR802	E3	R03	C1	R181	A5	R519	B4	VR904	A1
C284	C3	C609	A3	FR803	E3	R04	E1	R183	B5	R530	C2	X501	B4
C285	C3	C610	B3	IC01	D1	R05	E2	R184	B5	R531	C3	Z101	B4
C301	C4	C611	A3	IC02	C1	R06	D1	R185	B5	R532	C2	Z201	B3
C302	C4	C612	C4	IC201	D5	R07	D1	R186	B5	R601	C4	Z202	B3
C311	E4	C613	C3	IC281	C3	R08	D1	R189	A4	R602	C3	Z203	C3
C312	E4	C614	D4	IC301	E4	R09	C2	R201	C3	R603	A3	Z281	C3
C313	E4	C801	G2	IC401	D5	R10	C2	R202	C3	R605	A2	ZD01	E1
C314	E4	C802	G2	IC501	C4	R11	E2	R203	C3	R606	A2	ZD04	D2
C315	E3	C803	G3	IC502	A4	R12	E1	R204	C3	R607	B2	ZD05	D3
C316	F4	C804	G3	IC503	A3	R14	D1	R205	C3	R608	A2	ZD06	C1
C317	E4	C805	F2	IC504	B2	R15	E2	R206	B3	R609	B2	ZD07	C1
C318	E4	C806	F2	IC601	A2	R16	E1	R207	B3	R611	A2	ZD08	C1
C319	E4	C807	F1	IC602	C3	R17	D2	R208	B2	R612	A3	ZD401	A5
C321	E4	C808	F2	IC801	F1	R18	D1	R211	B3	R613	A3	ZD402	D4
C322	E4	C811	E2	JA204	C5	R19	C2	R233	C3	R614	D2	ZD403	B5
C400	G3	C812	F2	L01	C2	R20	D2	R234	C3	R615	D3	ZD419	E5
C401	E4	C814	E2	L02	D1	R21	E1	R243	D5	R616	C3	ZD501	A4
C402	B5	C817	E3	L03	C2	R22	D2	R244	D5	R617	C3		
C403	F3	C818	D3	L08	C2	R23	D4	R247	D5	R801	G3		
C404	F4	C819	E3	L100	B4	R26	C3	R251	D4	R802	F1		

CPT Board (14")

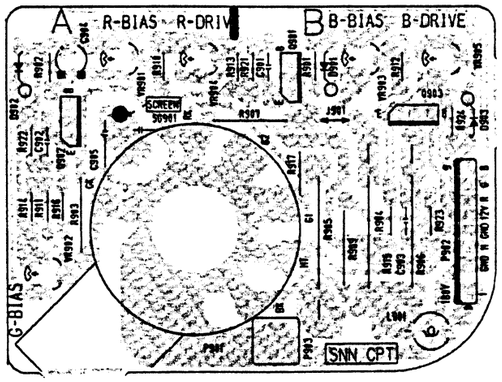


PCB P/N	Adoption	Remarks
111-N01A	14 inch, SNN CPT (for CKD MODEL)	• Main parts Location are all the same. • There are two kinds of CPT Board, one for SNN CPT(14"), the other for HiFo CPT (20", 21").
111-M92A	14 inch, SNN CPT (for complete set)	
111-N22A	20", 21" inch, HiFo CPT (for CKD MODEL)	
111-M55A	20", 21" inch, HiFo CPT (for complete set)	

Wiring Diagram

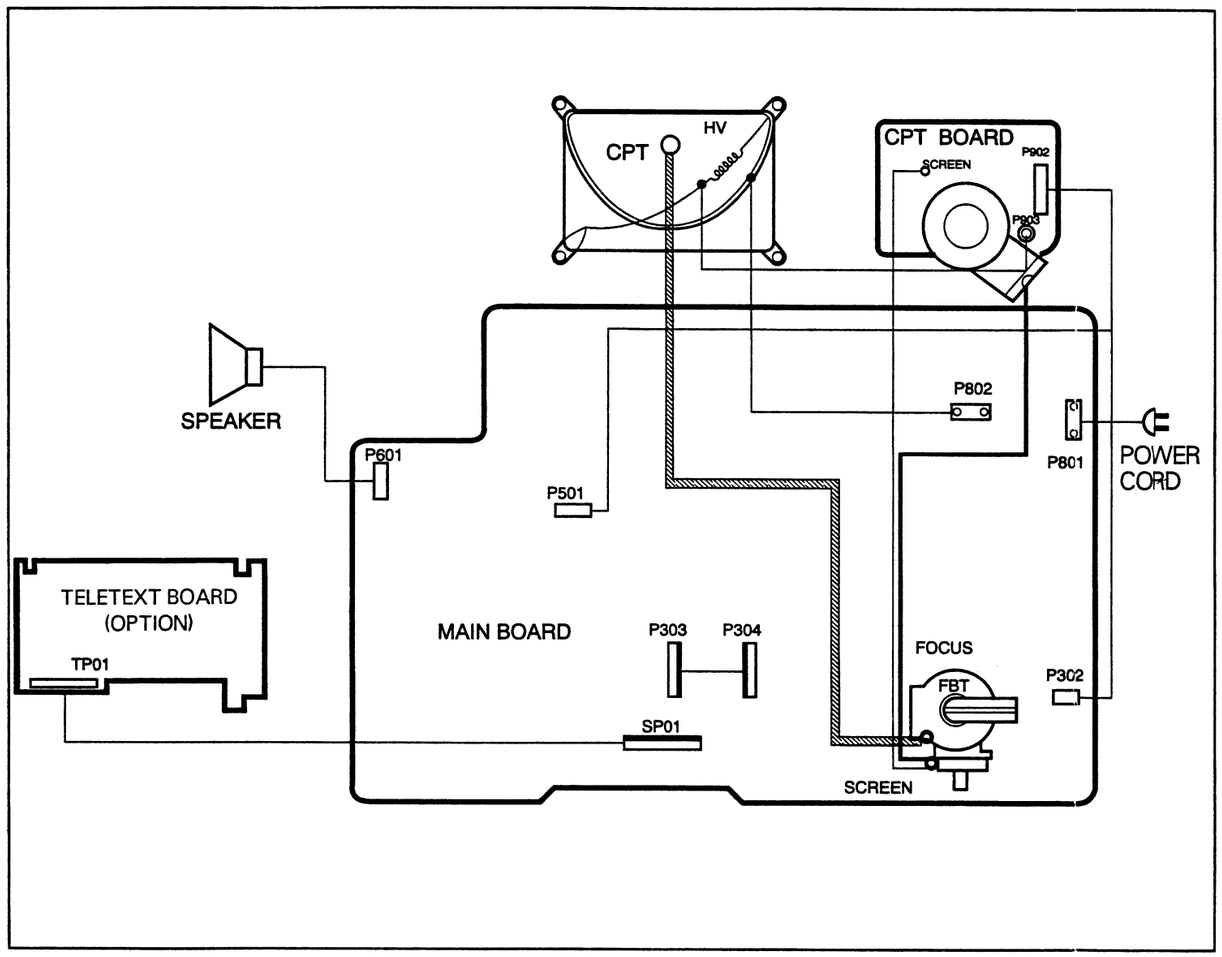


CPT Board (14")

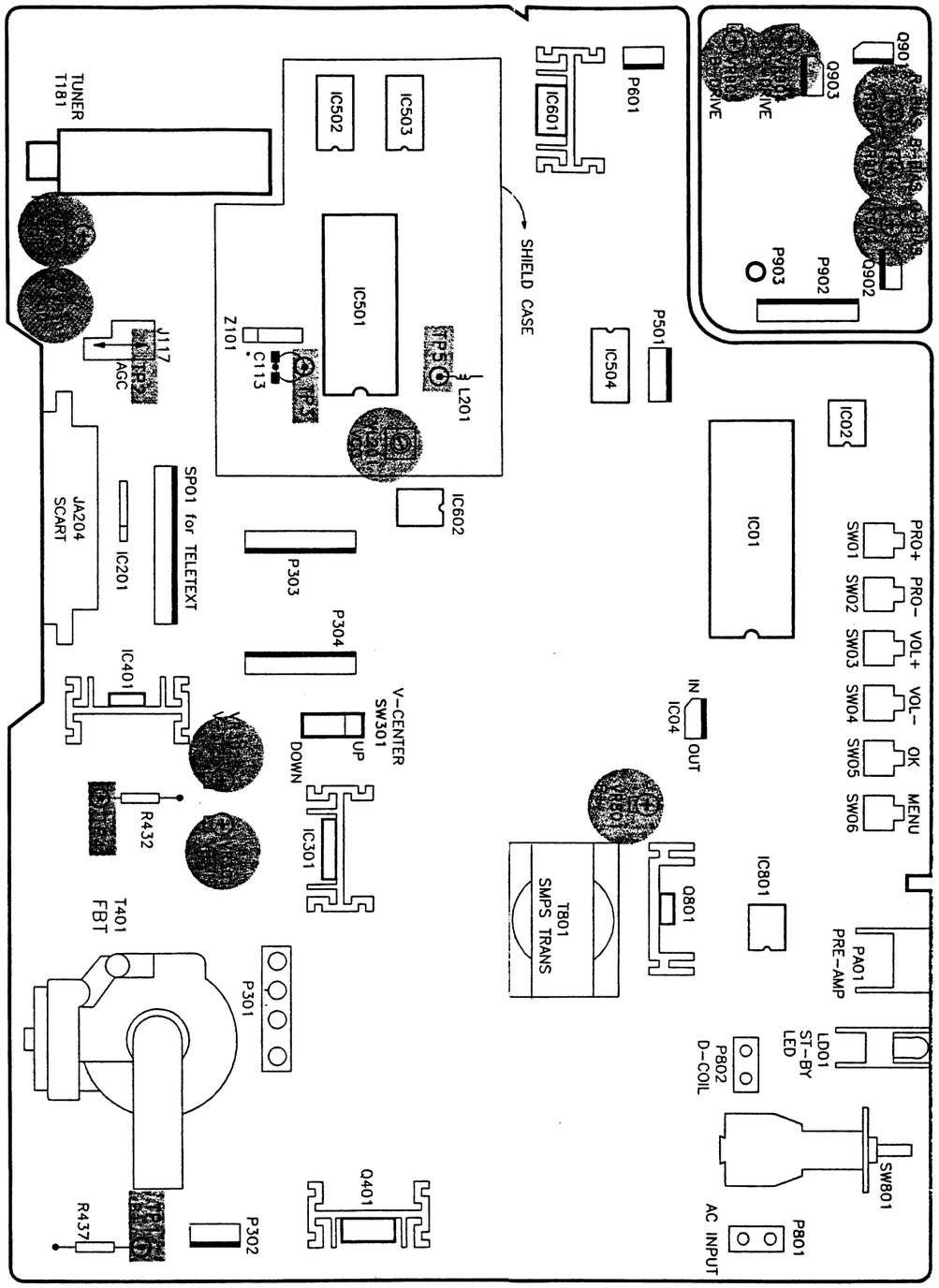


PCB P/N	Adoption	Remarks
111-N01A	14 inch, SNN CPT (for CKD MODEL)	• Main parts Location are all the same. • There are two kinds of CPT Board, one for SNN CPT(14"), the other for HiFo CPT (20", 21").
111-M92A	14 inch, SNN CPT (for complete set)	
111-N22A	20", 21" inch, HiFo CPT (for CKD MODEL)	
111-M55A	20", 21" inch, HiFo CPT (for complete set)	

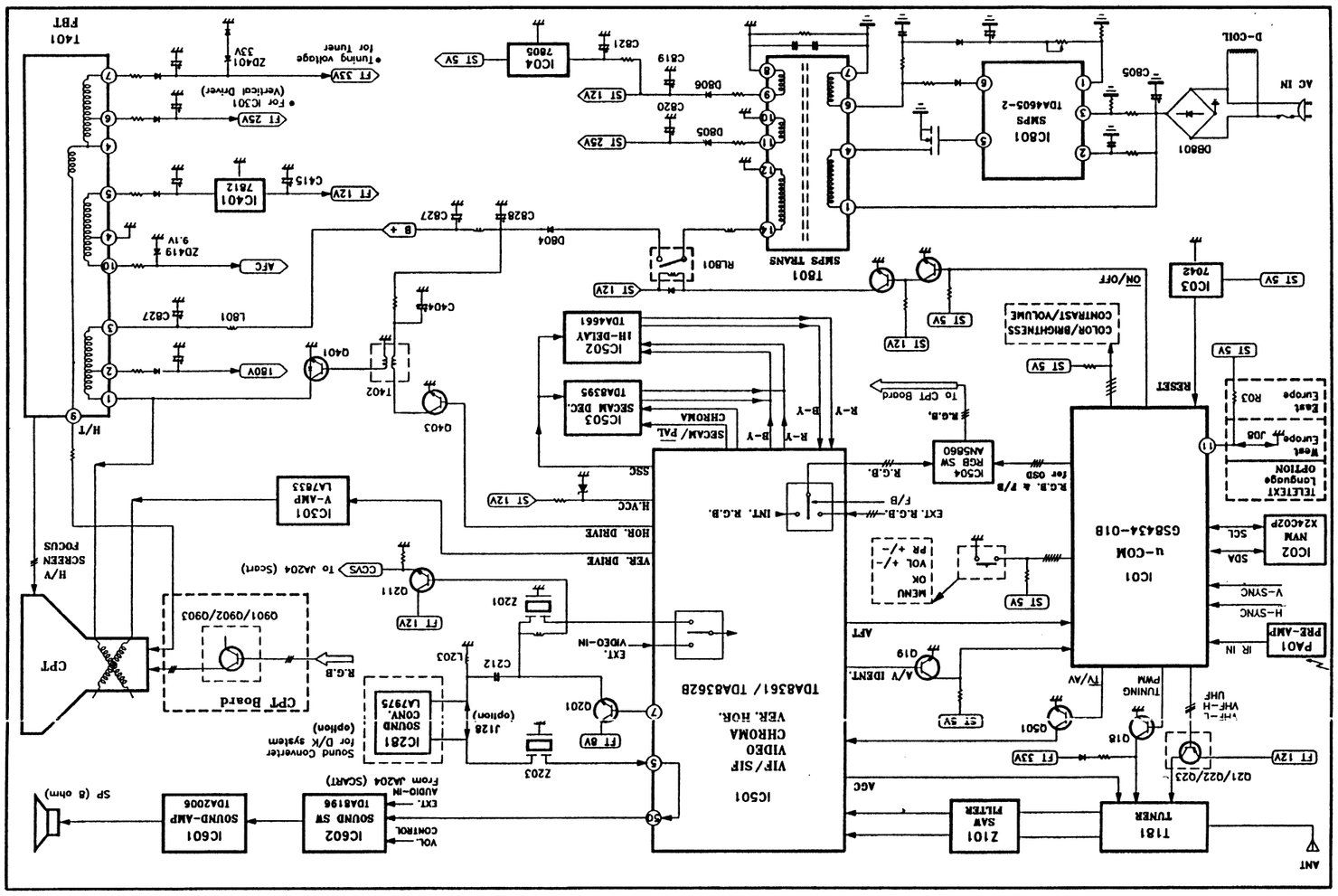
Wiring Diagram



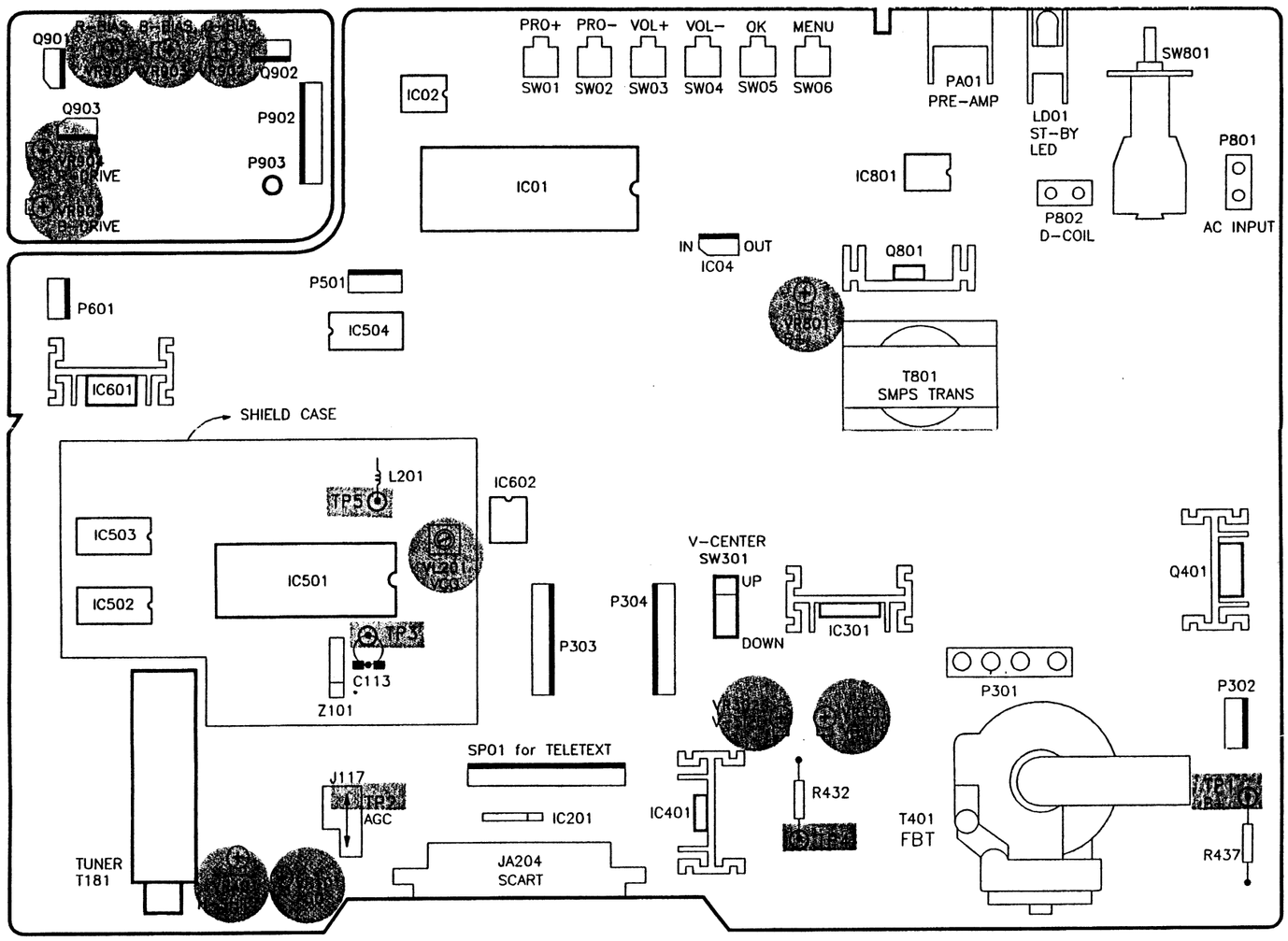
Alignment/ Test Point Location Guide



Block Diagram



Alignment/Test Point Location Guide



Remarks

- Parts Location
- Are same.
- Are two kinds
- For board, one for (14"), the HiFo CPT

SCHEMATIC DIAGRAM

SW01 PR+ SW02 PR- SW03 VOL+ SW04 VOL- SW05 OK SW06 MENU

IR ON/OFF

IC01 TDA2006 IC02 TDA8196(S-S/W) IC03 7042 IC501 TDA2006 IC502 TDA4661 IC503 TDA8395 IC504 AN5860

Q20 C3198Y Q18 C3198Y Q19 C3198Y Q601 C3198Y Q110 C3198Y Q201 C3198Y Q211 C3198Y Q212 A1266

Q23 DTA114ES Q22 DTA114ES Q21 DTA114ES

T181 TUNER

Z101 SAW-FILTER 1966M

IC201 RGB SW HIC

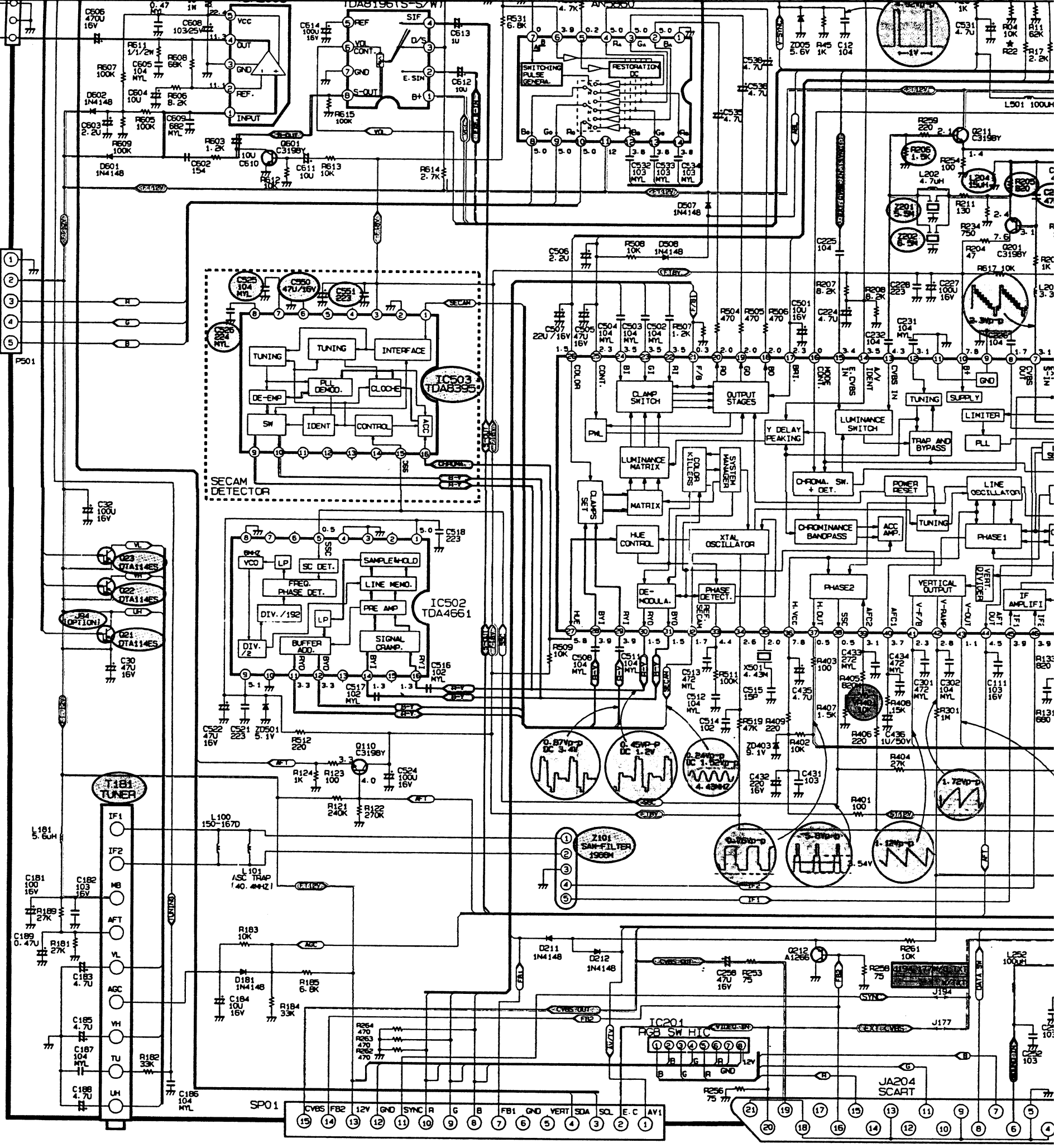
P501 TO CPT BOARD

P601

SECAM DETECTOR

L100 150-167D L101 ASC TRAP (40.4MHZ) L181 5.6UH L201 15UH L202 4.7UH L501 100UH L252 100UH

X01 4MHZ X501 4.43M



■ TroubleShooting Guide

PRESET CONTROL
Brightness - Fully Up
Contrast - Fully Up
Colour - Fully Up
Volume - Mid range or adjust as need

DEAD SET (NO RASTER/NO SOUND)

Check +B voltage at TP1 (R437)

- 130 - 140V
  - Check stand-by 12V at C821 (+)
    - 0V → Check/Replace FR803, D806, L803
    - 7-9V → Check/Replace IC501
- 112V (Normal)
  - Check heater elements of CRT are lighting or not
    - No → Check/Replace FR404, FR406
    - Yes → Check the voltage at C415 (+)
      - 0V → Check/Replace FR402, D402, R432, R433, IC401
      - 12V → Check the voltage of pin10 of IC501
        - 0V → Check/Replace ZD402, Q402, D410
        - 8V → Check/Replace IC501
- 0V
  - Check the rectified voltage of main power at C805 (+)
    - 0V → Check/Replace F801, DB801, R801
    - 250-380V → Check the voltage of pin6 of IC801
      - Less than 8V → Check/Replace R811
        - 8-15V → Check/Replace IC801, Q801 Check the secondary voltage are short.

NO RASTER (SOUND OK)

Check heater elements of CRT are lighting

- No → Check the AC voltage at pin1 of P901 on CPT board.
  - 6.0-6.5Vrms → Check/Replace CPT
  - 0Vrms → Check/Replace FR404, FR406
- Yes
  - The screen is blinking → Check/Replace IC501
  - Retrace line is visible → Check the screen voltage(G2) alignment is correct or not.
    - Abnormal → Realign White Balance
    - Normal → Check the screen colour
      - White → Check the 180V line at C424 (+)
        - Abnormal → Check/Replace FR405, D405
      - R/G/B → Check the base voltages of Q901-Q903
        - 12V → Check/Replace D901-D903
        - 4 - 5V → Check/Replace R904-R906 or soldering condition on CPT board.

ATIC DIAGRAM (PC-31A)

ADJUSTMENT — SIF/SOUND - - - - EXT.SOUND — POWER —

SW01 PR+ SW02 PR- SW03 VOL+ SW04 VOL- SW05 OK SW06 MENU

PRE-AMP PA01 PRE-AMP LD01 LED

IR ON/OFF STAND-BY

Q01 C3198Y Q02 C3198Y Q03 C3198Y Q04 C3198Y

P801 POWER IN F801 T4H 250V AC SW801 MAIN POWER SWITCH

C851 0.47/250V L851 70mH C850 0.47 250V

R801 2.2 5W TH801 1B PTC DB801 RB156

C804 102/1KV C801 102/1KV C803 102/1KV C802 102/1KV

P802

IC801 TDA4605-2

PRIMARY VOLTAGE MONITOR · PRIMARY CURRENT SIMULATOR · CONTROL AMP · CLOCK CIRCUIT · MOS DRIVER · SUPPLY & REFERENCE VOLTAGE · SOFT START · ZERO CROSS DET.

R807 5.1K R802 680K/1/2W R819 130K/1/2W R821 150K 1/2W R806 120K 1/2W R814 220 C807 682 ML R801 2KB R813 5.1K C814 50V D801 1N4148 R817 1K R811 27K 3W C812 224 MYL R812 47/1/2W C808 47U 25V R808 47 D802 1N4148 R809 1 C850 472 D803 TVR06J R810 47K/2W C806 333 630V R804 47K/2W C805 200U 400V R820 200K 1/2W R805 200K 1/2W

Q801 BUZ90 C853 472 4KV C854 472 4KV

GND REF/SEN. Vdd Vcc — Primary

GND ST. 12V GND ST. 25V GND B+(112V) — Secondary

TB01 SMPS

R851 4.7M 1/2W IC04 7805 R818 10 1W L803 100uH D806 TVR06J FR803 1 1/2W FR802 2.2 1/2W D807 1N4148 RL801 RELAY L804 FERRITE C824 102 1KV C829 470U 16V C821 100U 16V C819 470U 16V C817 471 500V C818 471 500V D805 TVR06J D804 RU4C C825 471 1KV C822 100U 35V L802 1uH C820 220 35V C828 100U 160V L801 1mH C827 100U 160V

R93 2.7K R94 2.2K C82 100U/16V Q99 C3202Y R97 22K R95 1.8K R96 1K R98 2.2K R99 7.5K

U128 (OPTION)

IC281 LA7975 — SOUND CONVERTOR

C281 47P C282 47U/16V R281 22 C283 103 Z281 6500 OSC. MIX AMP. HPF

IC301 LA7833

C311 10P D302 1N4148 D301 TVR06J R311 62K C312 102 MYL C314 220U 25V C313 470U/35V C315 47U R312 5.6 1/2W R313 1.5K R317 R318 24K C316 104 R316 390 1/2W R321 12K VR301 2K C318 .1U C317 1000U 35V L402 LIN. C321 1U TANTAL VR302 200K C322 10U 50V R322 2.2 1/2W C422 D421 TVR06J R424 1.2K 2W R323 2K R325 10K R324 1.39K Q301 C3198Y R326 1.2K 1/2W SH301 SVC

VERTICAL OUT · VERTICAL DRIVE · PUMP UP

P301 Y-DY H-DY

D408 TVR06J C400 1U 250V C427 1U 250V C421 COLLE. C423 471 500V FR405 1/2W C424 22 250V D405 TVR06J FT180V B+ ZD419 9.1V R431 2.7K 1/2W AFC GND HEATER FT25V FT16V FT40V C425 473 200V C413 471 1KV C414 220 35V D402 RU4C C416 471/500V FR403 5.6 1/2W T401 FBT C417 33U 50V D403 TVR06J C411 471 1KV R439 1K C412 1000 35V D401 TVR06J FR401 4.7 1/2W FR406

ANODE HV · FOCUS · SCREEN · ABL

R428 3.3K 5W D409 TVR06J C404 1U 250V D422 TVR06J C403 103 MYL L401 FERRITE Q401 KTD1555 R435 39 1/2W R423 3.3K 1/2W C401 820P Q403 C2230 R422 47 T402 H-TRANS

D407 1N4148 D411 1N4148 D406 1N4148 D410 TVR06J Q402 C3205 ZD402 9.1V R441 100 1/2W C426 100U 16V C415 220U/16V R437 R438 R432 2.2/2W IC401 7812 ZD401 33V HZ D404 1N4148 C418 4.7U R434 1.2K 1/2W

FOLLOWING DIODE D08

R275 2.4K R279 1.2K C277 103 L252 100uH L251 100uH R242 100uH R241 100uH C255 10U/16V R251 3.6K C259 103 C252 103 R271 22K Q214 C3198Y R244 2.7

Q212 A1266 R261 10K R258 75 J194 J177 SYNC

JA204

TDA8362/8361 (IC501)

H VCC · H OUT · SSC · AFC2 · AFC1 · V-F/B · V-RAMP · V-OUT · IF1 · IF2 · AGC · TUNER AGC · AGC · S-OUT · SUPPLY

PHASE2 · VERTICAL OUTPUT · VERTICAL DIVIDER · IF AMPLIFI · AGC · PHASE1 · PHASE1 FILTER · SUPPLY

CHROMINANCE BANDPASS · ACC AMP. · TUNING · PHASE1 · COINCIDENCE DETECTOR · AFC AND SAMPLE-AND-HOLD

CHROMA. SW. + DET. · POWER RESET · LINE OSCILLATOR · NOISE DETECTOR

Y DELAY PEAKING · LUMINANCE SWITCH · TRAP AND BYPASS · PLL · H AND V SEPARATION

TUNING · SUPPLY · LIMITER · SWITCH VOLUME · DE-MODULATOR

R41 100 R42 100 R43 100 R46 750 R47 750 R48 750 C34 100P R18 820 R01 10 R21 3K R24 4.7K C02 10U R30 390 R26 1K C531 4.7U R04 10K R11 62K R17 2.2K R22 R15 R20 R02 10K C08 223/25V C11 100U 16V R23 5.6K ZD05 5.6V R45 1K C12 104 C536 4.7U L501 100UH R503 2.7K R259 220 Q211 C3198Y Q501 C3198Y R206 1.5K R254 100 L202 4.7UH L203 15UH R205 820 C212 47P C285 47P L204 6.8UH L205 C223 10316V R233 1.5K Z201 5.5M Z202 6.5M Z203 5.5MB R211 130 R234 750 Q201 C3198Y R204 47 R203 1K R616 10K C225 104 R617 10K L201 3.3UH R207 8.2K R208 8.2K C228 223 C227 100U 16V C224 4.7U C231 104 MYL C232 104 C226 104 R202 6.8K R201 1K YL201 38.9MHZ VCO C202 18P C203 10U 16V R505 470 R506 470 C501 100U 16V

R05 R16 9.1K R12 2.2K R14 R06 1.3K R08 470 C24 330U /10V C09 103 R53 680 R54 680 C04 6V

ZD06 7.5V ZD07 7.5V ZD08 7.5V R50 470 R51 R64 10K R65 10K R84 100 R85 100 R86 100 R87 100 R88 100 R89 100 R33 1.2K R34 1.2K R35 1.2K R36 1.2K R37 1.2K R38 1.2K C28 100U R32 10K C10/ C17/ C23 25V

R63 5.6K R62 100 R49 4.7K R40 680 R68 1.2K R67 82 R66 2.2K R39 47K C27 100U 16V

PRE-AMP · LD01 LED · P801 POWER IN · F801 T4H 250V AC · SW801 MAIN POWER SWITCH

★THE TABLE (

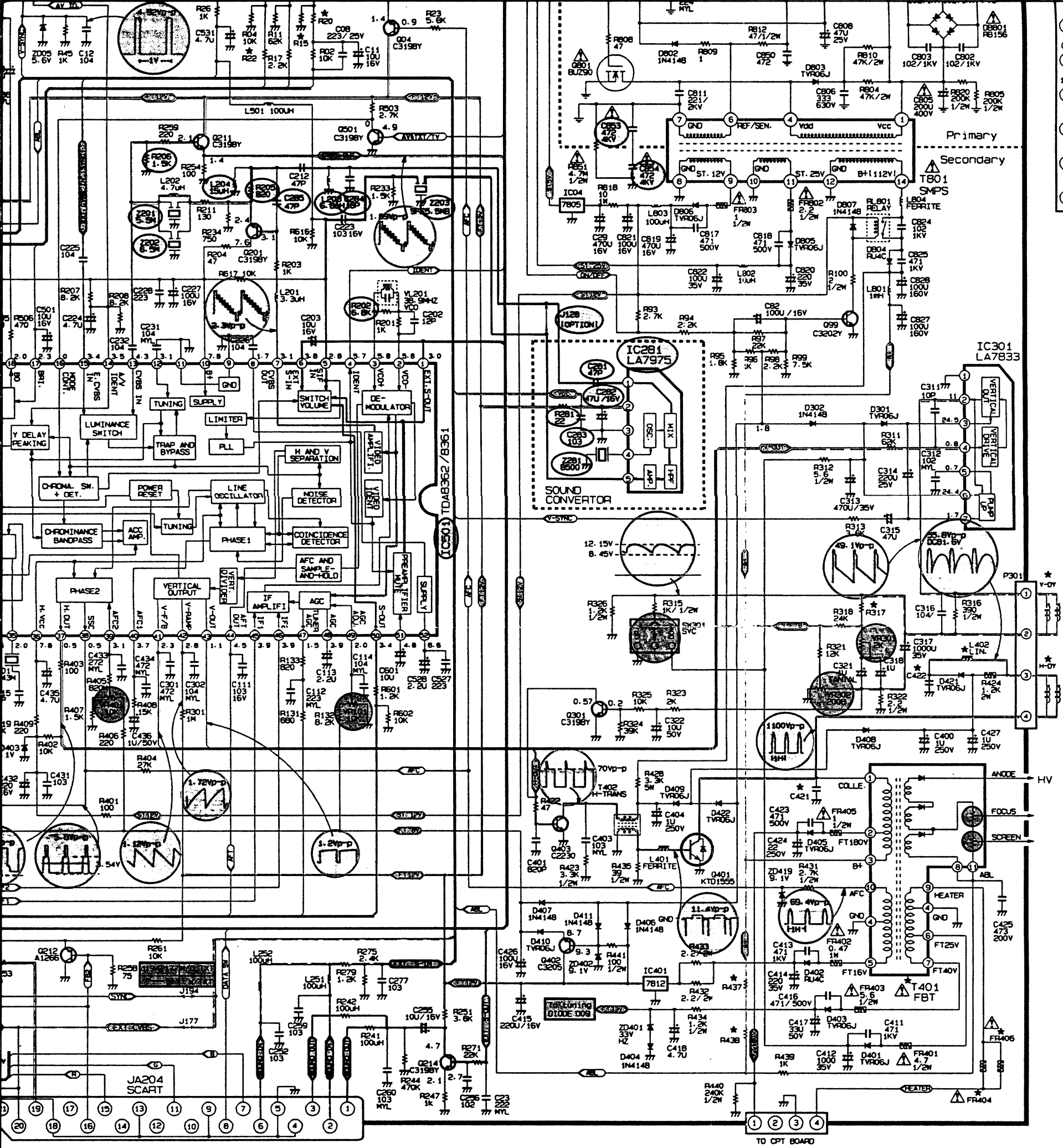
CIRCUIT NO	14"
C P T	A34KPU02
D Y	113V
T401	064P
C421	602H
C422	394
L402	224L
L901	10uH
FR404	10
FR406	5.6
R05	1.5K
R14	820
R15	12K
R20	2.7K
R22	6.8K
R317	22K
R437	68K
R438	82K

CPT BOAR

180V · L901 · R904 10K 2W · R917 100 · R901 100 · R902 100 · R924 100 · D901 D902 D903 1N4148 *3 · VR904 500B · VR903 · VR902 · R910 1.8K · C904 47U 16V · P902

TELETE

TR05 220 · TR32 1.5K · TR35 150 · TC12 47 16V · TQ01 KTC3198Y



NO RASTER (SOUND OK)

- Elements of CRT are lighting
  - Yes
    - The screen is blinking
      - Check/Replace IC501
    - Retrace line is visible
      - Check the screen voltage(G2) alignment is correct or not.
        - Abnormal → Align White Balance
        - Normal → Check the screen colour
          - White → Check the 180V line at C424 (+)
            - Abnormal → Check/Replace R405, D405
          - R/G/B → Check the base voltages of Q901-Q903
            - 12V → Check/Replace D901-D903
            - 4 - 5V → Check/Replace R904-R906 or soldering condition on CPT board.

NO SOUND (PICTURE OK)

- Check the voltage of SMPS 25V at pin5 of IC601
  - Abnormal → Check/Replace FR802, D805, FR601
  - Normal (20-25V) → Check the voltage of pin16 of IC501
    - 0V → Check the soldering condition around IC601
    - 10-12V → Check/Replace Q501
      - Abnormal → Check/Replace IC01
      - Normal → Check the voltage of pin10 of IC501
        - 7-9V → Check the voltage of pin5 of IC501
          - 2-5V → Check/Replace IC601, IC602
          - Check whether the voltage is swing or not at the pin56 of IC01 according to changing volume up/down
            - Abnormal → Check/Replace IC01

NOTE:
Sound is muted whenever the screen is noise condition, that is, broadcasting signal is not found.

NO COLOUR

- Check the frequency(4.4Mhz) at pin35 of IC501
  - Abnormal → Check/replace X501
  - Normal → Check the voltage of pin27 of IC501
    - Below 5V → Check/Replace IC501
    - OVER 5.5 → Check whether the volta swing or not at the pin59 according to changing c up/down.
      - Not → Check/Replace IC01
      - Swing → Check whether R-Y and are out at pin30 and pi of IC501
        - Not → Check/Replace IC501
        - Swing → Check whether R-Y and are out at pin9 and pir of IC503
          - No → Check/Replace IC503
          - Yes → Check whether R-Y and are out at pin11 and pir of IC502
            - No → Check/Replace IC502
            - Yes → Check whether R/G/B i at pin20 and pin19 an pin18 of IC501
              - No → Check/Replace IC501

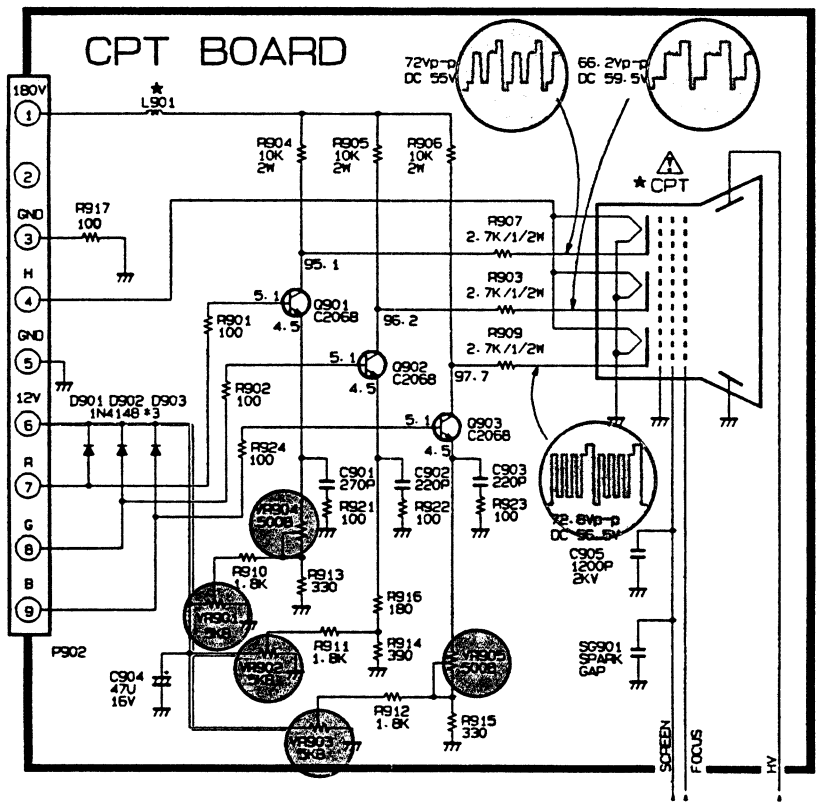
EXT.SOUND — POWER — HORIZONTAL — — — — VERTICAL — WAVEFORM — CHROMA — CVBS — — — — EXT.CVBS

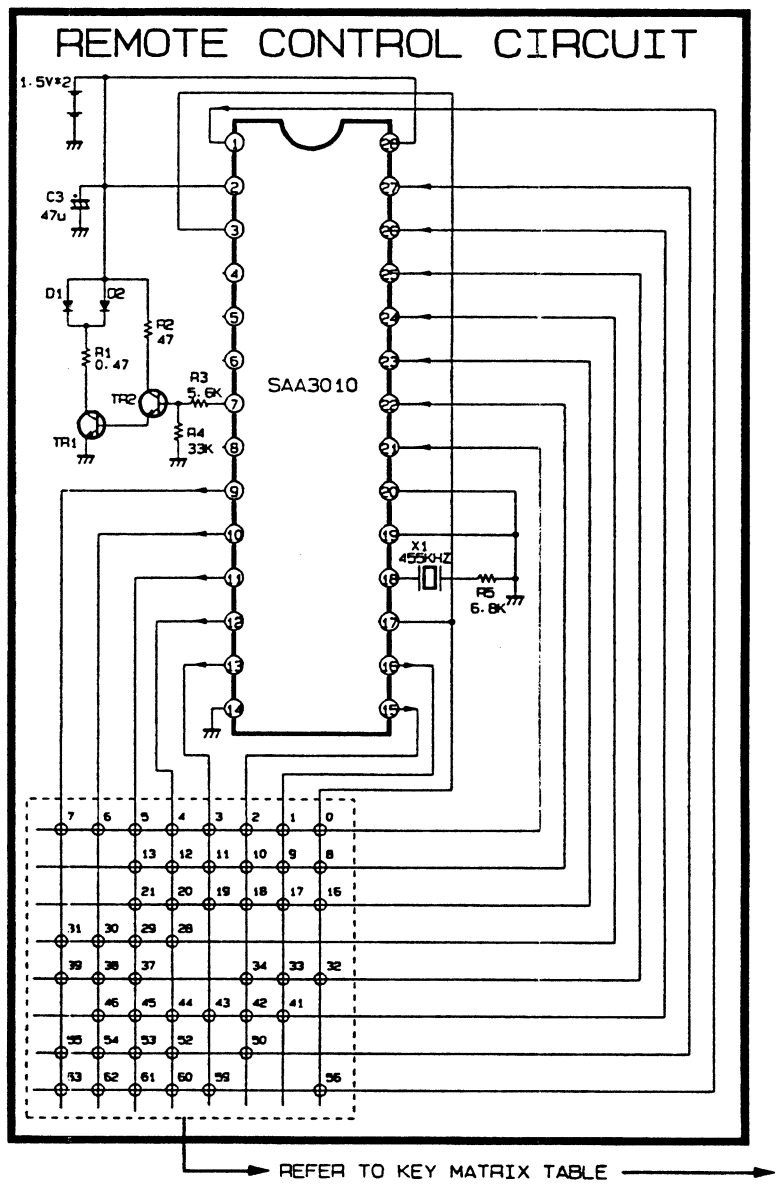
P/N : 484-8

DATE : JUN

★THE TABLE OF INCH CONVERSION

CIRCUIT NO	14"	20"	21"	REMARK
C P T	A34KPU02XX	A48KVK02XX	A51KPD12XX	CPT
D Y	113V	151D	110F	153-
T401	064P	106C	194D	FBT(154-)
C421	602H	862H	822H	MPP 1.6KV
C422	394	474	474	MPP 200V
L402	224L	224C	224C	COIL(150-)
L901	10uH	10uH	100uH	COIL
FR404	10	2	3.9	RES. FUSIBLE 1W
FR406	5.6	2	3	RES. FUSIBLE 1W
R05	1.5K	1.8K	1.8K	RES. FIXED 1/6W
R14	820	330	330	RES. FIXED 1/6W
R15	12K	6.8K	6.8K	RES. FIXED 1/6W
R20	2.7K	4.7K	4.7K	RES. FIXED 1/6W
R22	6.8K	4.7K	5.6K	RES. FIXED 1/6W
R317	22K	22K	27K	RES. FIXED 1/6W
R437	68K	56K	56K	RES. FIXED 1/2W
R438	82K	68K	68K	RES. FIXED 1/2W





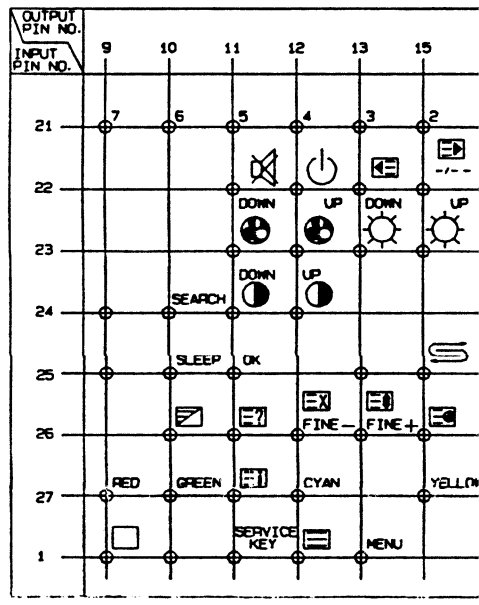
●THE TABLE OF RECEIVING SYS

CIRCUIT NO.	B / H	B / G	D / K	I
R06	1.5K	1.3K	1.8K	1.5K
R281	-	-	22	-
R206	-	-	1.5K	-
R202	6.8K	6.8K	10K	6.8K
L203	6.8UH	6.8UH	10UH	6.8UH
L204	33UH	15UH	2.2UH	8.2UH
C281	TIN WIRE	TIN WIRE	47pF	TIN WIRE
C282	-	-	47u/16V	-
C283	-	-	103p	-
C284	-	-	18P	-
C285	-	-	47P	-
C525	-	-	104J 50V	-
C526	-	-	224J 50V	-
C550	-	-	47U/16V	-
C551	-	-	0.022u/50V	-
C851	474 250V	474 250V	154 250V	-
C853	TIN WIRE	4700/4KV	4700/4KV	TIN WIRE
C854	2200/2KV	4700/4KV	4700/4KV	2200p/4KV
Q21	DIA114ES	DIA114ES	DIA114ES	-
Q22	DIA114ES	DIA114ES	DIA114ES	-
Q23	DIA114ES	DIA114ES	DIA114ES	-
IC281	-	-	LA7975	-
IC501	TDA8361	TDA8361	TDA8362	TDA8361
IC503	-	-	TDA8395/N1	-
Z101	G1966M	G1966M	K1950	J1953M
Z201	TPS5.5M	TPS5.5M	TPS5.5M	TPS6.0M
Z202	TPS6.5M	TPS6.5M	TPS6.5M	TP6.5M
Z203	5.5M	5.5M	6.0M	6.0M
Z281	-	-	CS8500	-
T181	238B	238B	238D	238E
		238C	238F	-
J34	-	-	-	TIN WIRE
J128	TIN WIRE	TIN WIRE	-	TIN WIRE
R50	-	-	-	470
R51	TIN WIRE	TIN WIRE	TIN WIRE	-
R205	820	820	-	820

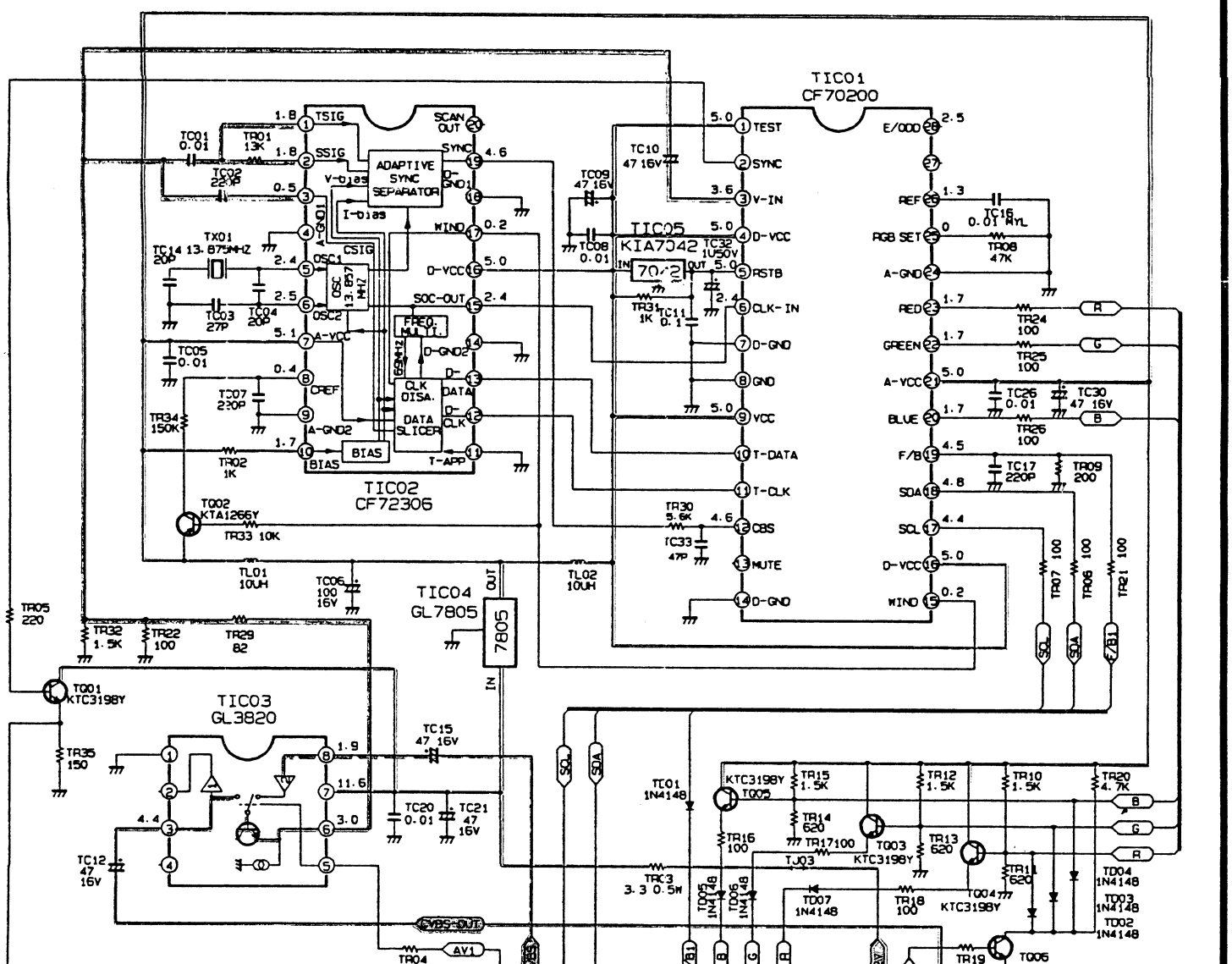
● TEXT LANGUAGE & MODE OPTION FOR U-COM IC(IC01)

FUNCTION / PIN NO.	LANGUAGE		MODE	
	WEST	EAST	TOP/FLOF	FLOF
PIN 11	LOW(0)	HIGH(1)	-	-
PIN 12	-	-	HIGH(1)	LOW(0)

● KEY MATRIX TABLE



TELETEXT BOARD (OPTION)



NOTICE

Since this is basic circuit diagram, the value and some partical connection are subject improvement.

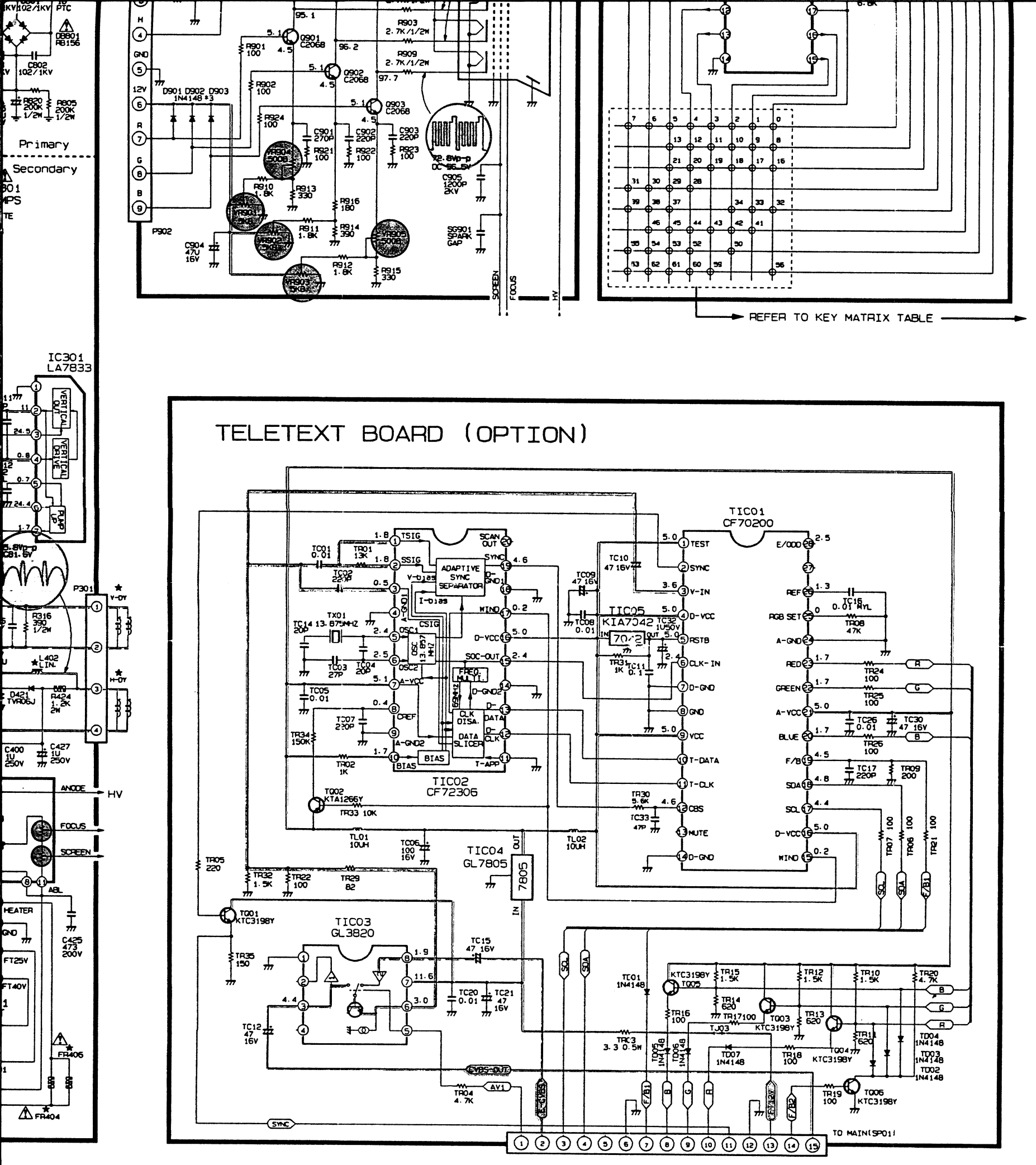
The components marked ⚠ conform to VD lines and are essential for safe operation of While those marked ⚠ are required for con Use specified parts only when replacing.

Value of resistor, capacitor and indu

1. Resistances are shown in ohm, K=1,000, M
2. Unless otherwise noted in schematic, all less than 1 are expressed in mfd and the v 1 in pF.
3. Unless otherwise notied in schematic, all more than 1 are expressed in uH and value Henry(H).

Observation of voltages and wave

1. Voltages with VTVM from point to chas voltage is 230Vac +/- 20% volts, (240V ENGLAND, AUSTRALIA, NEWZEALAND) Signal pattern is colour-bar.
2. The schematic shown is represetative only
3. All waveforms are taken using a wide ba and a low capacity probe.
4. Check Fine tuning, AGC, Brightness, Cont

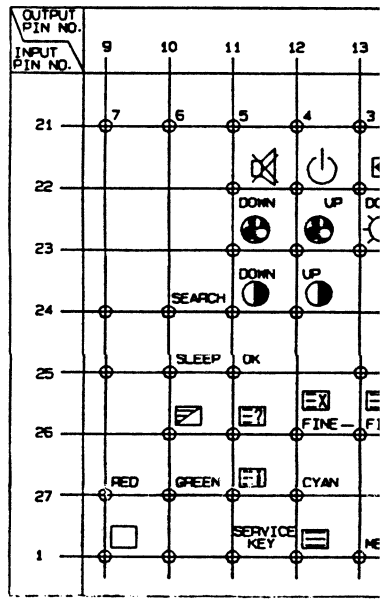


Z202	TP56.5M	TP56.5M	TP56.5M
Z203	5.5M	5.5M	6.0M
Z281	-	-	CSB500
T181	2388	2388	2380
		238C	238F
J84	-	-	-
J128	TIN WIRE	TIN WIRE	-
R50	-	-	-
R61	TIN WIRE	TIN WIRE	TIN WIRE
R205	820	820	-

● TEXT LANGUAGE & MODE FOR U-COM IC(IC01)

FUNCTION / PIN NO.	LANGUAGE		M O
	W E S T	E A S T	TOP/FLOF
PIN 11	LOW(0)	HIGH(1)	-
PIN 12	-	-	HIGH(1)

● KEY MATRIX TABLE



NOTICE

Since this is basic circuit diagram
and some partical connection
improvement.

The components marked ⚠ con
lines and are essential for safe op
While those marked ⚠ are requi
Use specified parts only when re

Value of resistor, capacito

1. Resistances are shown in ohm,
2. Unless otherwise noted in sch
less than 1 are expressed in mf
1 in pF.
3. Unless otherwise notied in sch
more than 1 are expressed in u
Henry(H).

Observation of voltages a

1. Voltages with VTVM from po
voltage is 230Vac +/- 20% v
ENGLAND, AUSTRALIA, NEWZ
Signal pattern is colour-bar.
2. The schematic shown is repres
3. All waveforms are taken using
and a low capacity probe.
4. Check Fine tuning, AGC, Bright
controls for best picture,
brightness are in mid-position a

NO COLOUR

Check the frequency(4.4Mhz) at pin35 of IC501

- Normal → Check the voltage of pin27 of IC501
  - Below 5V → Check/Replace IC501
  - OVER 5.5V → Check whether the voltage is swing or not at the pin59 of IC01 according to changing colour up/down.
    - Not → Check/Replace IC01
    - Swing → Check whether R-Y and B-Y are out at pin30 and pin31 of IC501
      - Not → Check/Replace IC501
      - Swing → Check whether R-Y and B-Y are out at pin9 and pin10 of IC503
        - No → Check/Replace IC503
        - Yes → Check whether R-Y and B-Y are out at pin11 and pin12 of IC502
          - No → Check/Replace IC502
          - Yes → Check whether R/G/B is out at pin20 and pin19 and pin18 of IC501
            - No → Check/Replace IC501

NO PICTURE/NO SOUND (RASTER OK)

Check the voltage of TUNER MB(12V)

- 11.8-12.2 → Check/Replace Tuner
- Check the tuning condition → Check the 33V at C418 (+) → Check/Replace FR403, ZD401, D403
- 0V → Check/Replace FR402, D402 IC401

NO TELETEXT

Check the volltage 12V at TJ03 on TXT Board.

- Abnormal → Check the 12V line to be correct.
- Abnormal → Check/Replace TIC 04
  - No → Check whether video signal is in at the pin6 of TIC03 or not.
    - Yes → Check/Replace TIC03
    - No → Check the CVBS line
      - No → Check/Replace TIC01, TIC02 u-COM(IC01) Check all the connections of SDA, SCL
      - No → Check/Replace TIC01

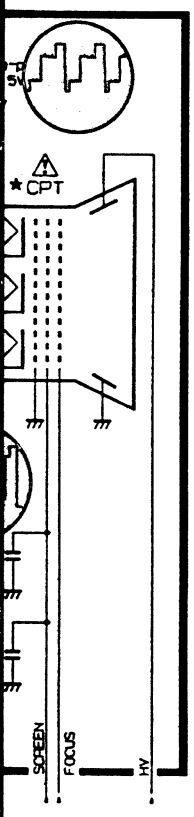
● If TELETEXT data error occurs, readjust channel memory or VCO (VIF & AFT) adjustment.

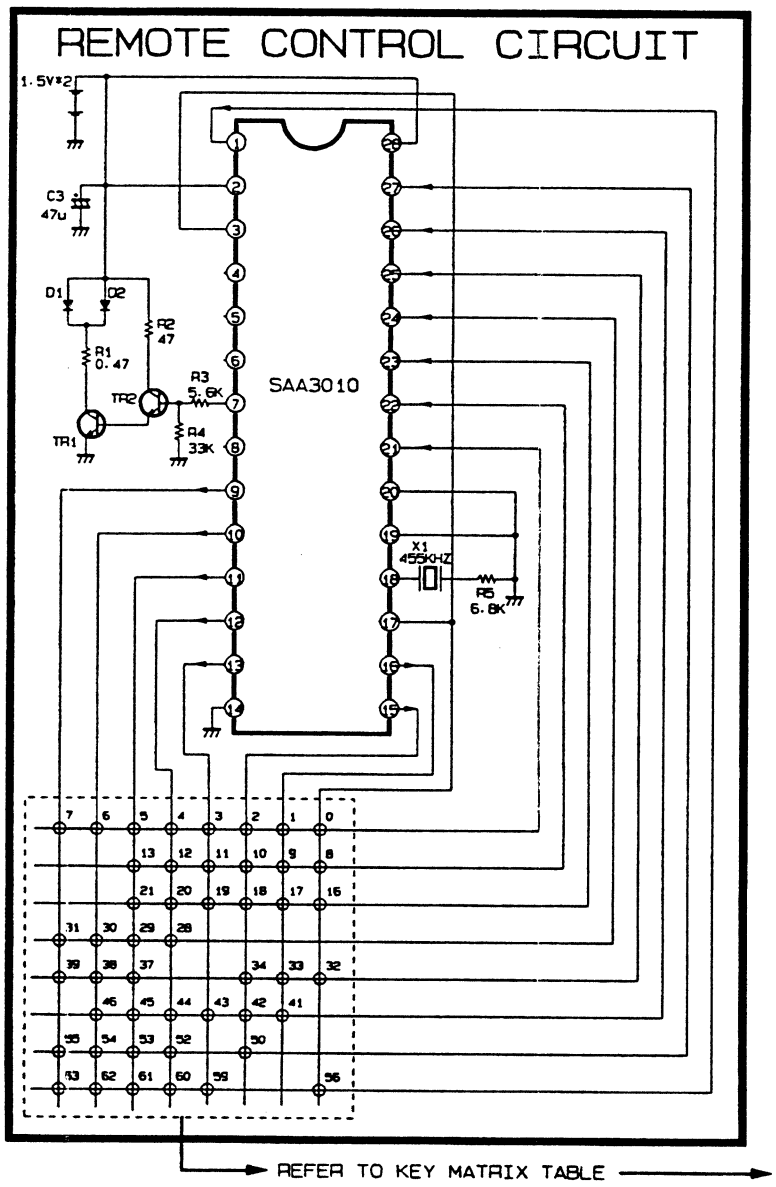
VERTICAL — WAVEFORM — CHROMA — SYBS — EXTC/BS

P/N : 484-856B-S

DATE : JUN. 1, 1994

MARK
I
V
- I
IBLE 1W
IBLE 1W
ED 1/6W
ED 1/6W
ED 1/6W
ED 1/6W
ED 1/6W
ED 1/6W
ED 1/2W
ED 1/2W





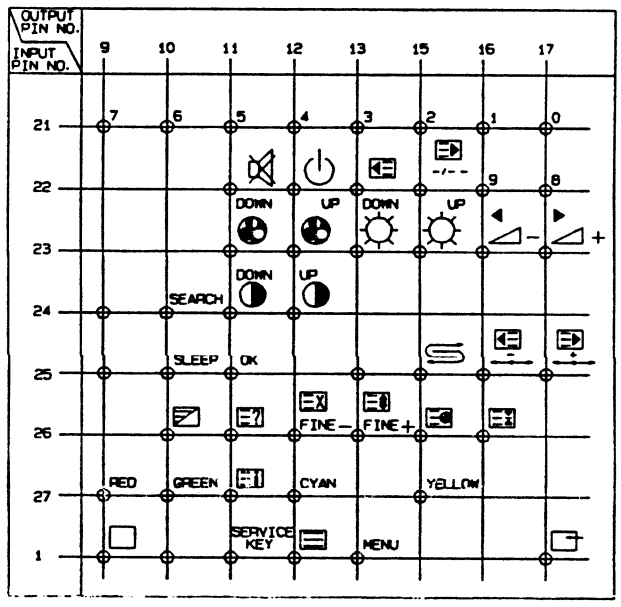
● THE TABLE OF RECEIVING SYSTEM

CIRCUIT NO.	B / H	B / G	D / K	I	REMARKS
R06	1.5K	1.3K	1.8K	1.5K	CARBON FILM RESISTOR
R281	-	-	22	-	
R206	-	-	1.5K	-	
R202	6.8K	6.8K	10K	6.8K	
L203	6.8UH	6.8UH	10UH	6.8UH	INDUCTOR
L204	33UH	15UH	2.2UH	8.2UH	INDUCTOR
C281	TIN WIRE	TIN WIRE	47pF	TIN WIRE	CAP. TUBULAR
C282	-	-	47u/16V	-	CAP. CE
C283	-	-	103p	-	CAP. TUBULAR
C284	-	-	18P	-	CAP. TUBULAR
C285	-	-	47P	-	CAP. TUBULAR
C525	-	-	104J 50V	-	CAP. MYLAR
C526	-	-	224J 50V	-	
C550	-	-	47U/16V	-	CAP. CE
C551	-	-	0.022u/50V	-	CAP. CERAMIC
C851	474 250V	474 250V	154 250V	-	X-CAPACITOR
C853	TIN WIRE	4700/4KV	4700/4KV	TIN WIRE	Y-CAPACITOR
C854	2200/2KV	4700/4KV	4700/4KV	2200p/4KV	
Q21	DIA114ES	DIA114ES	DIA114ES	-	TRANSISTOR
Q22	DIA114ES	DIA114ES	DIA114ES	-	TRANSISTOR
Q23	DIA114ES	DIA114ES	DIA114ES	-	TRANSISTOR
IC281	-	-	LA7975	-	S-CONVERTOR
IC501	TDA8361	TDA8361	TDA8362	TDA8361	JUNGLE
IC503	-	-	TDA8395/N1	-	SECAM
Z101	G1966M	G1966M	K1950	J1953M	SAW FILTER
Z201	TPS5.5M	TPS5.5M	TPS5.5M	TPS6.0M	FILTER TRAP
Z202	TPS6.5M	TPS6.5M	TPS6.5M	TP6.5M	
Z203	5.5M	5.5M	6.0M	6.0M	FILTER BPF
Z281	-	-	CSB500	-	RESONATOR
T181	238B	238B	238D	238E	TUNER
		238C	238F	-	TUNER (HYPER BAND)
J84	-	-	-	TIN WIRE	
J128	TIN WIRE	TIN WIRE	-	TIN WIRE	
R50	-	-	-	470	
R61	TIN WIRE	TIN WIRE	TIN WIRE	-	
R205	820	820	-	820	

● TEXT LANGUAGE & MODE OPTION FOR U-COM IC(IC01)

FUNCTION / PIN NO.	LANGUAGE		MODE		REMARKS
	WEST	EAST	TOP/FLOF	FLOF	
PIN 11	LOW(0)	HIGH(1)	-	-	LOW(0) : GND
PIN 12	-	-	HIGH(1)	LOW(0)	HIGH(1): 5V

● KEY MATRIX TABLE



OPTION)

NOTICE

Since this is basic circuit diagram, the value of components and some partical connection are subject to change for improvement.

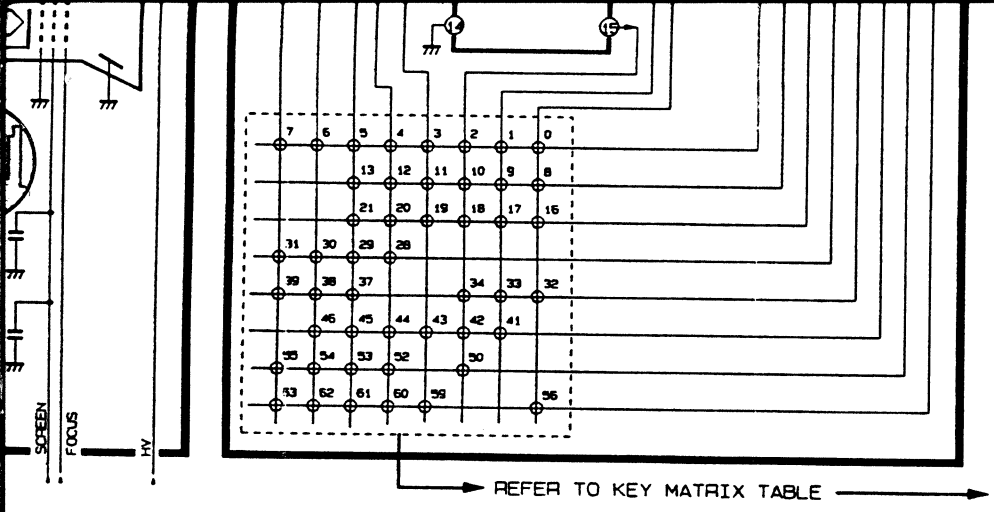
The components marked ⚠ conform to VDE or IEC guidelines and are essential for safe operation of the set. While those marked ⚠ are required for correct operation. Use specified parts only when replacing.

Value of resistor, capacitor and inductor

1. Resistances are shown in ohm, K=1,000, M=1,000,000.
2. Unless otherwise noted in schematic, all capacitor values less than 1 are expressed in mfd and the values more than 1 in pF.
3. Unless otherwise notied in schematic, all inductor values more than 1 are expressed in uH and values less than 1 in Henry(H).

Observation of voltages and waveforms

1. Voltages with VTVM from point to chassis ground, line voltage is 230Vac +/- 20% volts, (240Vac +/- 20% in ENGLAND, AUSTRALIA, NEWZEALAND)
   Signal pattern is colour-bar.
2. The schematic shown is represetative only.
3. All waveforms are taken using a wide band oscilloscope and a low capacity probe.
4. Check Fine tuning, AGC, Brightness, Contrast and Colour



T181	2388	2388	2380	238E	TUNER
		238C	238F	-	TUNER (HYPER BAND)
J94	-	-	-	TIN WIRE	
J128	TIN WIRE	TIN WIRE	-	TIN WIRE	
R50	-	-	-	470	
R61	TIN WIRE	TIN WIRE	TIN WIRE	-	
R205	820	820	-	820	

• TEXT LANGUAGE & MODE OPTION FOR U-COM IC(IC01)

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PIN 12	-	-	HIGH(1)	LOW(0)	HIGH(1): 5V

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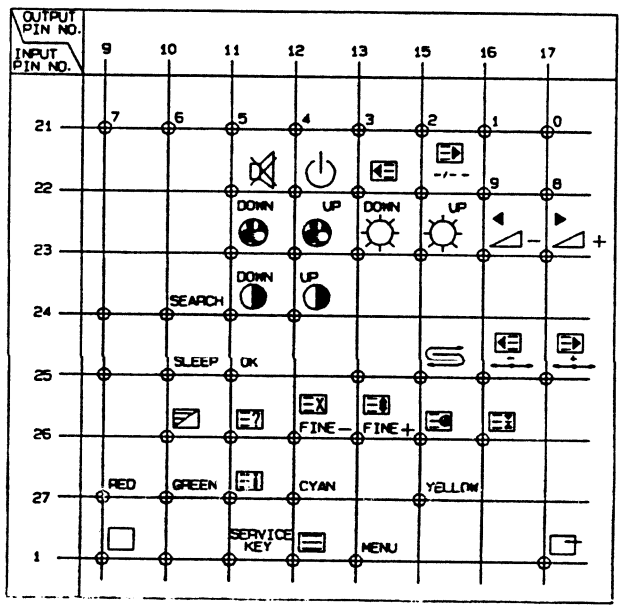

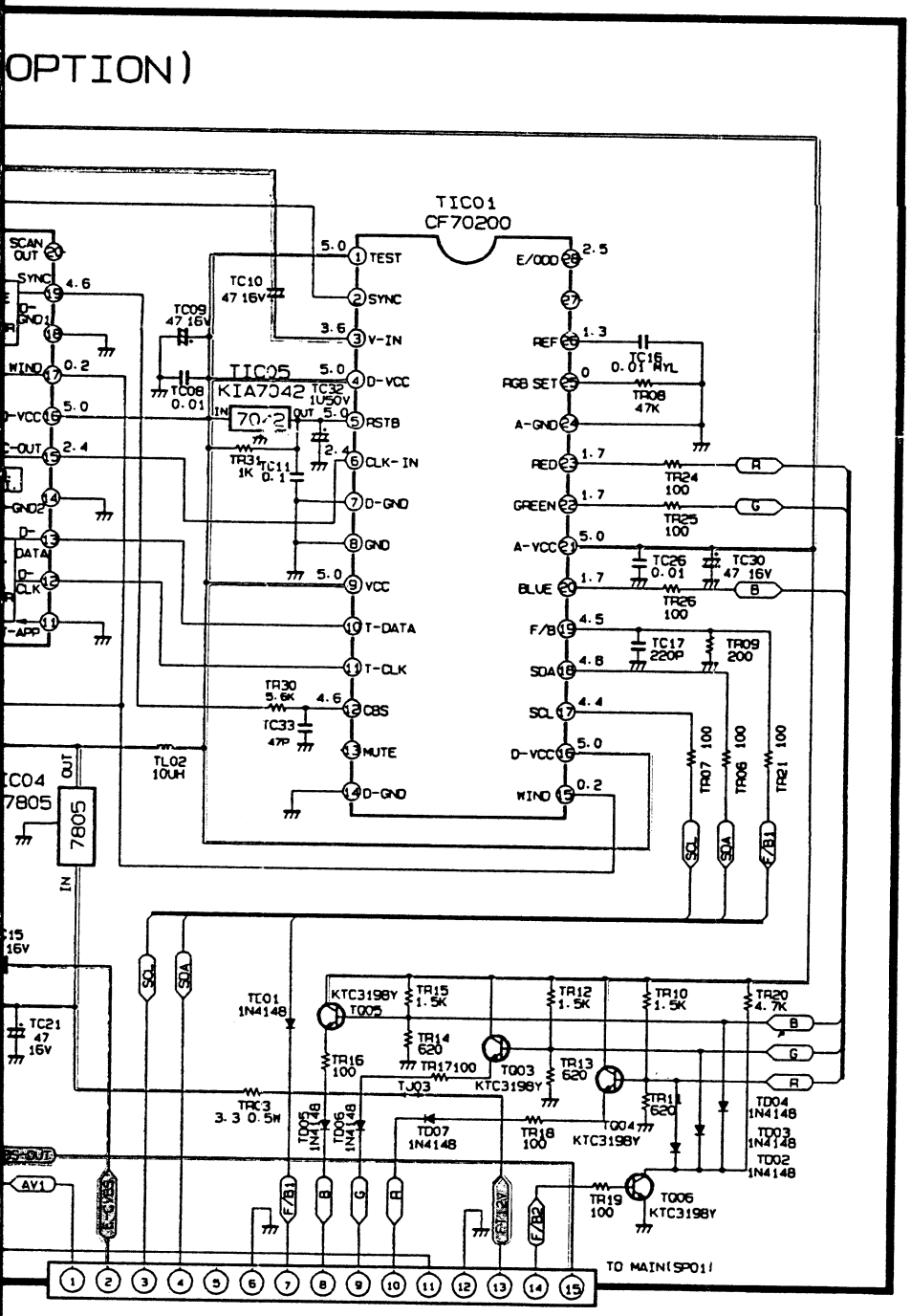

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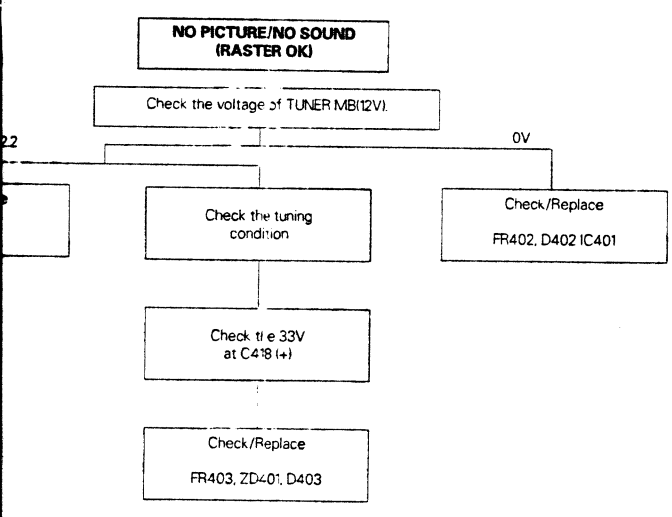
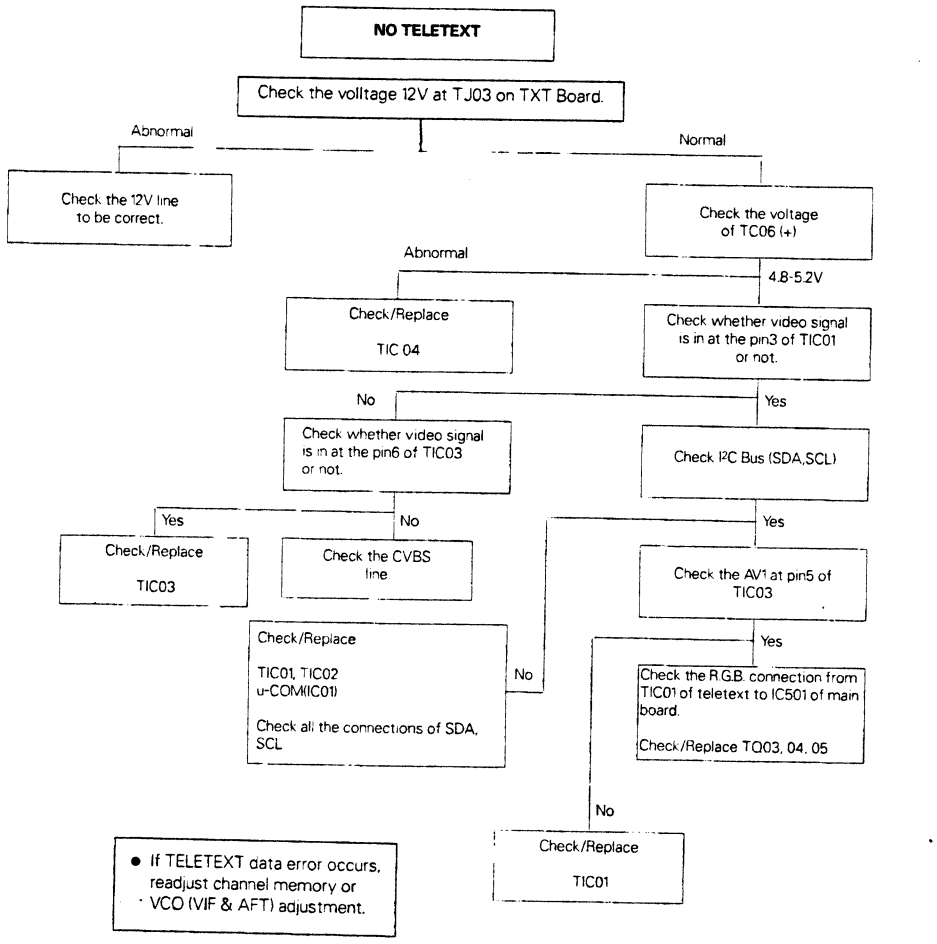
   Signal pattern is colour-bar.
2. The schematic shown is represetative only.
3. All waveforms are taken using a wide band oscilloscope and a low capacity probe.
4. Check Fine tuning, AGC, Brightness, Contrast and Colour controls for best picture, make sure that colour, brightness are in mid-position and contrast is in 75%.


NO PICTURE/NO SOUND (RASTER OK)
Check the voltage of TUNER MB(12V).
0V
Check the tuning condition
Check/Replace FR402, D402 IC401
Check the 33V at C418 (+)
Check/Replace FR403, ZD401, D403


NO TELETEXT
Check the volltage 12V at TJ03 on TXT Board.
Abnormal
Normal
Check the 12V line to be correct.
Check the voltage of TC06 (+)
4.8-5.2V
Abnormal
Check/Replace TIC 04
Check whether video signal is in at the pin3 of TIC01 or not.
No
Yes
Check whether video signal is in at the pin6 of TIC03 or not.
Check I2C Bus (SDA,SCL)
Yes
No
Yes
Check/Replace TIC03
Check the CVBS line
Check the AV1 at pin5 of TIC03
Check/Replace TIC01, TIC02 u-COM(IC01) Check all the connections of SDA, SCL
No
Yes
Check the R.G.B. connection from TIC01 of teletext to IC501 of main board.
Check/Replace TQ03, 04, 05
No
Check/Replace TIC01
• If TELETEXT data error occurs, readjust channel memory or VCO (VIF & AFT) adjustment.

SVC SHEET : 484-856B-S

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P/N 483-901S

JUL., 1994